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QUEEN VICTORIA

NIAGARA FALLS PARK

INDEX TO OFFICIAL DOCUMENTS.

Year	Title	Date	Page
1896	Act authorizing grant of lands to Clifton Suspension Bridge Company.....	7th April, 1896.	1
"	<u>Eleventh Annual Report of Commissioners, including,</u>	9th March, 1897	7
	(1) Report by Superintendent on Military Reserve at Fort Erie	25th Aug., 1896	9
	(2) Report by Superintendent on Military Reserve at Niagara-on-the-Lake	26th Aug., 1896	16
	(3) Report by Superintendent on Military Reserve at Queenston Heights	25th Aug., 1896	19
	(4) Annual Report of Superintendent	1st Feb., 1897...	35
1897	<u>Twelfth Annual Report of Commissioners, containing,</u>	12th Jan., 1898	43
	(1) Agreement with Canadian Niagara Power Co'y. and Niagara Falls Park and River Railway Company for sale of surplus power	27th Nov., 1897	44
	(2) Report by Superintendent on water powers on lower Niagara River	20th June, 1897	49
	(3) Annual Report of Superintendent	31st Dec., 1897.	55
1898	<u>Thirteenth Annual Report of Commissioners, containing</u>		61
	(1) Annual Report of Superintendent	20th Jan., 1899	67
	(2) Lease of wharf privileges to Marchmont and Haskings	18th July, 1898	71
	(3) Lease of wharf privileges to Captain Jas. Sheppard	22nd July, 1898	74
	(4) Lease of wharf privileges to Maid of the Mist Steamboat Company	18th July, 1898	77
	*5) Report by Superintendent on Chain Reserve on upper Niagara River	10th Oct., 1898.	79
	(6) Report by Superintendent on proposed Park at Fort Erie	10th Oct., 1898.	83
1899	Act authorizing surrender of Agreement of 1892 by Canadian Niagara Power Company	1st April, 1899..	85
"	Act authorizing Commissioners to enter into Agreement for use of waters of Niagara or Welland River for power purposes.....	1st April, 1899..	85
"	<u>Fourteenth Annual Report of Commissioners, containing</u>		89
	(1) Annual Report of Superintendent	31st Dec., 1899..	94
1b	(2) Agreement with Canadian Niagara Power Co'y.	15th July, 1899	97
	(3) Agreement with Fort Erie Ferry Railway Co'y.	10th April, 1900	104
	(4) Agreement with Ontario Power Company	11th April, 1900	111
1900	Act confirming Agreement with Fort Erie Ferry Railway Company	30th April, 1900	123

INDEX TO OFFICIAL DOCUMENTS—CONTINUED.

<i>Year</i>	<i>Title</i>	<i>Date</i>	<i>Page</i>
1900	Fifteenth Annual Report of Commissioners, containing, (1) Annual Report of Superintendent		127 129
1901	Act authorizing sale of Niagara Falls Park and River Railway to Buffalo Railway Company	15th April, 1901	133
"	Sixteenth Annual Report of Commissioners, containing, (1) Annual Report of Superintendent		137 144
	(2) Agreement with Canadian Niagara Power Com- pany extension of time	19th June, 1901	148
	(3) Agreement with Canadian Niagara Power Com- pany for shaft, etc.	19th June, 1901	151
	(4) Agreement with Ontario Power Company—Sup- plementary	15th Aug., 1901	153
	(5) Agreement with Ontario Power Company—An- cillary	15th Aug., 1901	156
1902	Act confirming Agreement of the 19th June, 1901, with Canadian Niagara Power Company	17th March 1902	159
"	Statutory amendment changing name of Buffalo Railway Company to International Railway Coy	17th March 1902	160
"	Map showing location of power plants in Park	1st March, 1903	161
"	Seventeenth Annual Report of Commissioners, contain- ing	4th March, 1903	165
	(1) Annual Report of Superintendent		177
	(2) Agreement with Ontario Power Company "Nia- gara River Intake"	28th June, 1902	182
	(3) Agreement with Messrs. Mackenzie, Pellatt and Nicholls	29th Jan., 1903	190
	(4) Memoranda in re application of Messrs. Macken- zie, Pellatt and Nicholls, arguments of Solicit- ors, Engineers, etc., etc.		201 to 255
	(5) Report by I. Randolph, C.E., upon sites avail- able for power plants	4th April, 1903.	256
	(6) Report by L. L. and P. N. Nunn on transmiss- ion of Electric Power	27th April, 1903	260
	(7) Agreement amending Supplementary and An- cillary Agreements with O. P. Co.	28th June, 1902	267
1903	Order-in-Council abrogating tolls on Islands in Park ...	24th March 1903	268
	Statutory Amendment to Act 62 Victoria (2) Chapter 11 (page 87)	12th June, 1903	269
"	Statutory Amendment to Act 2 Edward VII., chapter 11 (page 161).....	12th June, 1903	271
"	Act authorizing improvement of bank of upper Niagara River	12th June, 1903	273
"	Eighteenth Annual Report of Commissioners, containing (1) Order in Council authorizing Honorarium to Chairman of Commissioners	3rd Feb., 1904. 6th March, 1903	291 307

INDEX TO OFFICIAL DOCUMENTS—CONTINUED.

<i>Year</i>	<i>Title</i>	<i>Date</i>	<i>Page</i>
	(2) Annual Report of Superintendent		368
	(5) Address by Chairman to American Park and Outdoor Art Association	8th July, 1903..	314
	(4) Agreement with Ontario Power Company—Pipe Line and Power House	28th Feb., 1903	318
	(5) Agreement with Zybach & Brundage	14th Feb., 1903	324
	(6) Agreement with Canadian Shipbuilding Coy.....	30th Dec., 1903.	328
1904	Statutory Amendment to Agreement with Canadian Niagara Power Company	26th April, 1904	337
"	Statute Amendment to Park Act 1887	26th April, 1904	339
"	<u>Nineteenth Annual Report of Commissioners, containing</u>	1st March, 1905	345
1904	(1) Annual Report of Superintendent		363
	(2) Agreement with Electrical Development Company for 2nd Franchise	9th Jan., 1905..	372

59th VICTORIA

Statutes of Ontario

CHAPTER 10

AN ACT TO AUTHORIZE THE COMMISSIONERS OF
THE QUEEN VICTORIA NIAGARA FALLS PARK TO
GRANT CERTAIN LANDS TO THE CLIFTON SUS-
PENSION BRIDGE COMPANY.

Assented to 7th April, 1896.

Preamble

WHEREAS the Clifton Suspension Bridge Company have by their petition prayed that an Act may be passed conferring upon the Commissioners of the Queen Victoria Niagara Falls Park the powers hereinafter mentioned ; and whereas it is expedient to grant the prayer of the said petition ;

Therefore, Her Majesty, by and with the advice and consent of the Legislative Assembly of the Province of Ontario, enacts as follows :—

Park Commis-
sioners em-
powered to
grant strip to
Bridge Com-
pany

1. From and after the passing of this Act, and subject to the approval of the Lieutenant-Governor in Council, the Commissioners of the Queen Victoria Niagara Falls Park may grant to the Clifton Suspension Bridge Company a strip of land from off the chain reserve along the Niagara River and abutting the lands now in occupation of the said company.

REPORT

OF THE

COMMISSIONERS

FOR

QUEEN VICTORIA NIAGARA FALLS PARK

1896.

PRINTED BY ORDER OF

THE LEGISLATIVE ASSEMBLY OF ONTARIO



TORONTO:

WARWICK BRO'S & RUTTER, PRINTERS, &C., 68 AND 70 FRONT ST. WEST.
1897.

TORONTO. 9th March, 1897.

SIR,—I have the honor to transmit herewith, to be presented to His Honor the Lieutenant-Governor, the Eleventh Annual Report of the Commissioners for Queen Victoria Niagara Falls Park, being for the year ended 31st December, 1896.

I have the honor to be, Sir,

Your obedient servant,

J. W. LANGMUIR,

Chairman.

HON. E. J. DAVIS M.P.P.,

Provincial Secretary, Toronto.

ELEVENTH ANNUAL REPORT
OF THE
COMMISSIONERS
FOR THE
QUEEN VICTORIA NIAGARA FALLS PARK.

*To the Honorable GEORGE AIREY KIRKPATRICK,
Lieutenant-Governor of Ontario.*

MAY IT PLEASE YOUR HONOR:—

The Commissioners for the Queen Victoria Niagara Falls Park beg to submit their Eleventh Annual Report, being for the year ended 31st December, 1896.

In their last report the Commissioners deemed it advisable to mark their entry on the second decade of their trusteeship by giving a somewhat detailed history of the Park scheme from its inception in the year 1878, when Lord Dufferin suggested the establishment of a system of international parks at Niagara Falls, down to the close of the year 1895: but with more particular reference to the active operations of the past ten years resulting in the acquirement, restoration and improvement of the various properties now comprising the Niagara Falls Park system.

Through the courtesy of Prof. G. K. Gilbert, of the United States Geological Survey, the Commissioners were able to insert in that report a valuable illustrated monogram on the geological history of the Niagara River and Falls, which, together with a choice selection of views of Park scenery as well as maps of the territory placed under the care of the Commissioners, made a very handsome volume which the Commissioners have reason to believe was much appreciated by the public.

 OBITUARY.

On the 25th of March the Board was deprived by death of the services of Mr. John A. Orchard, who had been a valued member of the Commission from April, 1887. At a meeting held in April, 1896, the following minute was adopted by the Commissioners and engrossed in the minute book of the Board:

"The Commissioners desire to place on record their deep sense of the loss they have sustained by the death of their esteemed colleague, Mr. J. A. Orchard, who for a period of nearly nine years has given the benefit of his matured judgment to all matters requiring the consideration and attention of the Board. His fellow Commissioners testify to the valuable services of Mr. Orchard and his earnest endeavor at all times to further the best interests of the Park."

The retirement of Colonel Sir Casimir Gzowski and the death of Mr. Orchard left two vacancies on the Board of Commissioners, to fill which an Order-in-Council was passed on September 23rd, 1896, appointing Messrs. Benjamin Ernest Charlton, of the City of Hamilton, and James Bampton, of the Town of Niagara Falls.

GENERAL BROCK'S CENOTAPH.

The attention of the Commissioners having been repeatedly called to the neglected condition of the grounds surrounding the small monument at the base of Queenston Heights, which had been erected to mark the spot where General Sir Isaac Brock fell on 13th October, 1812, and finding on examination that the title to the land in question had never been acquired, the Commissioners secured the same and purchased an additional piece of land of sufficient area to enable them to fittingly mark this historic spot. The work of restoration will be taken into hand in the spring and the property put in a condition more in harmony with public sentiment.

QUEENSTON HEIGHTS PARK.

Since the date of last report the monument grounds at Queenston, now under the control of the Commissioners, have been enlarged by the addition of some twenty acres of ordnance lands and the initial work of cleaning up and improving the property has been commenced. There remains, however, several disjointed portions of the original reserve comprising chiefly the steep escarpment on both the east and west extremities of the monument grounds, which the Commissioners are of opinion should become part of the Park domain. Negotiations are now in progress to secure these remaining lands, which it is hoped will result in the whole of this commanding and historic ground being brought within the scope of the Park and made subject to its by-laws and regulations.

FORT ERIE AND NIAGARA-ON-THE-LAKE RESERVE.

Numerous petitions have been presented to the Commissioners by municipal and other representative bodies in the county, asking that the grounds around the ruins of Fort Erie, which form a small part of the original ordnance reserve of one thousand acres at that point, should be taken over from the Dominion Government and improved and maintained under the jurisdiction of the Commissioners, as a portion of the Niagara Park system. The lands in question are only separated from the southern extremity of the chain reserve, now vested in the Commissioners, by about two miles of flat shore land.

The inhabitants of the Town of Niagara-on-the-Lake have also petitioned the Government and the Commissioners to have such of the military lands at that point as are not actually required for military purposes placed under the Commissioners and cared for as part of the Park system, and similar action was also recommended by many in respect to the balance of the ordnance lands at Queenston Heights.

That the Board might intelligently consider all the questions relating to these several properties, the Park Superintendent was instructed to make an examination of the grounds in each case and report upon the works which would be required to put the lands in good order, and also to furnish an estimate of the minimum cost of the initial improvements, as well as the cost of future maintenance.

The reports of the Superintendent are as follows :—

NIAGARA FALLS, August 25th, 1896.

J. W. LANGMUIR, Esq., Chairman.

DEAR SIR:—As desired by the Honorable the Attorney-General, I beg to submit the following memorandum in respect to the military reserve at Fort Erie, which it is proposed by the people of the vicinity should be placed under the control of the Park Commissioners, and become a portion of the Park system, as set forth in the copy of resolution attached hereto, which was passed at a large public meeting held at the site of the old fort on 25th July last.

The area of the plot of ground which immediately surrounds the old fort is seventeen and one-half acres in extent: it fronts the lake but is separated from it by the beach and the highway, which is called the lake shore road.

Originally the lands reserved for military purposes extended along the lake shore for a distance of two and a quarter miles, embracing an area of one thousand acres, or from the Garrison Road on the north to Helena Street on the west, and to the lake shore.

Some years before Confederation, however, the block was laid out into parcels and nearly all of it sold off: the only portions reserved being the seven-

teen and one-half acres at the old fort, the lands then occupied by the Buffalo and Lake Huron Railway Company, and the beach lands lying between the lake shore road and the edge of the water.

Since that time some of the lots have reverted to the Crown ; the railway lands have been abandoned, and part of the beach disposed of by sale and a considerable extent of it leased for a term of years for a pleasure ground ; so that at the present time the Dominion Government controls :

1. The reserve at the old fort	17½ acres.
2. Lands formerly occupied by the Buffalo and Lake Huron railway, say	25 “
3. Beach lands	7½ “
Or a total of about.....	50 “

and some lots which have reverted, the area of which I do not know.

The plan herewith shows in color these lands as follow :—

Green.—The reserve at the old fort.

Yellow.—Lands formerly occupied by the railway but not so used since 1873 ; also the beach in front of the lake shore road.

I have also indicated in a green color the chain reserve in front of the village lots, which is fully dealt with in my report of July 28th, 1893.

The resolution passed by the citizens, asking that the ordnance lands adjacent to the old fort be put under the control of the Commissioners, does not specify clearly the lands intended : but I have assumed that all the lands now in the Dominion should be included in the recommendation and especially that the beach in front of the railway should, if possible, be saved from further damage by recurring storms.

Should the property become vested in the Commissioners, the triangular block containing about seventeen and one-half acres, upon which the principal fortifications were built, could be put into fair condition and maintained without much expense—the chief works required being to fence in the front with an ornamental wire railing and the converging sides with a substantial seven strand and post fence.

The lands not covered by the fortifications should be set out with suitable trees and shrubbery, the turf brought to as good a surface as possible and the whole kept nicely by constant attention. Perhaps it would be desirable to make some slight repairs to the masonry, where it has been injured by vandals : but a very small outlay only should be made for this purpose and for planting creepers to cover up the raggedness of the walls now standing.

A few years ago the rear bastion had a much more imposing appearance than at present, but the stone work was thrown down and the best of the stones removed to furnish material for the Episcopal church at the north end of the village.

The protection of the shore of the lake will be a very important, but also an expensive work, as the whole reach of the frontage which may be transferred will require to be substantially rip-rapped, and the back of the wall filled in with soil to a level to be determined on. Stone for the walling may, however, be quarried on the spot, and the cost reduced to a minimum, while material for filling in can be obtained from the railway lands. Of course it would not be necessary to carry out the whole of this work at once, but the piece in front of the old fort should be done with as little delay as possible.

There is a tract of land some twenty-five acres in extent, which was at one time occupied by the Buffalo and Lake Huron Railway Company, but has reverted to the Government and which should be included in the transfer, that might be made to assist in providing funds for the maintenance of the property. It is of triangular shape and could be laid off into villa lots and disposed of to good advantage, while the central portion should be reserved for ball grounds and put in shape for that purpose.

In any case the property should be improved and a large number of trees planted, either on the lines of proposed streets, or to form a grove about the ball and play grounds proposed.

With respect to the cost of the improvements which have been outlined, it is of course impossible to give a definite estimate until the extent of the works to be undertaken is determined on, and detailed surveys made. As an approximation, however, of the minimum amount which would be required to do the work outlined above, the following figures may be given :

1. Cleaning up and putting into shape the grounds around old Fort, making a driveway and paths, fencing front and sides, planting trees and shrubs and creepers, mending recently broken places in walls, flagstaff, etc.	\$2,000
2. Building revetment wall along the water's edge for a distance of 500 yards, and filling in with soil to form a terraced promenade, planting, etc.....	\$7,000
3. Fencing, laying out streets, planting, making ball grounds, etc., at old railway reserve.....	\$1,000
	————\$10,000

MAINTENANCE.

1 working man in charge, 365 days at \$1.25.....	\$456 00
Day laborers.....200 " 1.25.....	250 00
Hire of team..... 30 " 3.00.....	90 00
Tools, materials, etc.	104 00
	———— \$900
Interest on \$10,000 at 4%	400
Annual charge.....	———— \$1,300

From this it will be seen that by the sale of ten thousand dollars worth of park bonds the Fort Erie reserve can be put into good shape, and form a fitting southern terminus to the park system. The maintenance charge of \$1,300, as has been stated, may be materially reduced should it be found advisable to dispose of part of the old railway occupancy for villa lots. The creation of a park and marine promenade, so near at hand, would doubtless enhance the value of all the property in the neighborhood, and make these lots most desirable for city people.

At the present time all the Government lands in this vicinity are utterly neglected. Many hundreds of soldiers were buried in the neighborhood of the fortifications, but of these only one or two can now be identified and there are no headstones or other marks to locate the graves.

Fort Erie has had an eventful history. Through the kindness of Captain Cruikshank, the well-known historical writer, and who resides in the neighborhood, I am enabled to give the following summary of the events which have transpired in connection with it, viz:

The first fortification known as Fort Erie was a block house and barracks built on the edge of the lake by General Bradstreet in 1774. This work became ruinous and was greatly damaged by a storm in the spring of 1779.

On March 16th, Capt. R. Matthews, secretary to General Haldimand, reported as follows:

'The state of this place owing to the late storm and flood, the wall upon which the logwood and picketing is erected on the side next the river is almost destroyed, there being four breaks made quite through it, one being twenty-four feet long from within three feet of the east bastion towards the waterport; another of twelve under the waterport and two smaller ones. There are several others but not through the wall, and other parts of the fort that remain standing are considerably shaken. In this season of the year nothing more can be done than to make up the breaches in the most expeditious and best manner possible to prevent the bastions from falling.

In the summer it will be absolutely necessary to pull the whole down and rebuild it properly with stone and lime or (what I think should answer better) with a very stout frame filled in with dry stone work. The situation is a flat solid rock where a foundation for a wall cannot be sunk. Masonry, therefore, unless well executed and very solid, must always be subject to injury from a very violent surf which rolls against it from the lake with strong westerly winds which prevail most here and always occasion very high water. The place in other respects is very much in need of repairs. The pickets have become very rotten, and the barracks and storehouses must be new shingled the ensuing summer. I have written to stop the lime from Niagara: as it will be attended with much less

expense and perhaps more certainty, from the precariousness of the passage, to burn some lime here. I am, in the meantime, cleaning the barracks and making other preparations for the work.'

On August 17th, 1803, Lieutenant-Governor Peter Hunter wrote to Lord Hobart that 'Fort Erie was so completely in ruins that temporary expedients can be no longer resorted to, and it is indispensably necessary without delay to make some new establishment. The expense is to be £9,649 0s. 1½d., to be carried out gradually.' He enclosed a report and estimate by Col. Gotther Mann, R.E., dated Quebec, 1st August, 1803. Col. Mann said: 'Fort Erie being the situation at the head of the communication between the Lakes Ontario and Erie, which has long since been chosen as the temporary deposit of provisions, stores and merchandise on this passage both up and down, and where the King's and merchant vessels navigating the upper lakes assemble and take in and discharge their lading. Some protection and defence here has been considered as a proper measure, although from various causes the latter has been long much neglected.

The post which was constructed here was altogether of a temporary nature, being nothing more than an enclosure of strong picketing, containing some buildings serving as quarters for troops, store houses, etc., all of wood and equally perishable with the enclosure. The whole for the last twenty years has been in a progressive course of decay, and has been for some time scarcely tenable. The expensive mode of temporary repairs from year to year has kept a part of the building from falling entirely to pieces: but what time and decay has not accomplished was completed by a storm which happened on the 16th January last, and the whole is now in ruins except one stone building which is a storehouse and blockhouse constructed in 1797, and in good condition

One of the principal causes of the neglect of this fort has been owing to a fault in its position, being completely commanded by a rising mountain immediately in its rear at the distance of only about 500 feet, and as a new fort had long been considered necessary, and the rising ground the most proper place for it to stand on, it was not thought prudent to construct any permanent works or buildings, the storehouse above mentioned excepted, at the old position. The time has now arrived when temporary expedients no longer avail. Although a certain position of defence being indispensably necessary, and the more so, perhaps, now on account of its vicinity to an American post lately established at the Black Rock about a mile and a-half below on the other side of the water. I do not look upon Fort Erie as a place requiring works of any considerable magnitude. I should propose to erect a small fort on the rising ground, having a secure communication with the water, of sufficient extent to contain occasionally 200 or 300 men, and that the works and buildings for the purpose be of substantial masonry.

ESTIMATE.

	£	s.	d.
Fortifications buildings.....	4,941	8	0
Two stone buildings, loop holed on one side each ninety-six feet long, of two stories, as quarters for troops, each to contain 100 men	1,700	0	0
A building 160 feet long as quarters for officers	1,000	0	0
Storehouse within fort	600	0	0
Guardhouse, small powder magazine, etc	800	0	0
Contingencies	220	0	0
Pay a foreman.....	38	7	1

According to the plan attached the old fort in ruins stood in front (that is west) of the site for new fort, where there was a slip for small vessels, and the King's store, merchants' store and landing lay farther to the south.'

In a despatch dated Downing street, 9th of January, 1804, Lord Hobart authorized General Hunter to 'commence works according to proposed plan and carry them on gradually as circumstances may render expedient.'

On the 24th August, 1811, Lieutenant-Colonel R. H. Bruyere, R. E., reported to Sir George Provost that 'Fort Erie is situated at the entrance to Lake Erie, eighteen miles above Fort Chippewa. The old fort on the borders of the lake is in ruins and totally abandoned. The construction of a new fort projected by Lieutenant-General Mann on the rising ground above the site of the old fort to be built of masonry was begun in the spring of 1805, in conformity with the report approved by Lord Hobart, Secretary of State, in a letter to General Hunter. This work was continued until the latter end of the year 1807, when it was put a stop to by order of the Lieutenant-General Sir James Craig on his arrival at Quebec. At the time of closing the two piles of barracks together with the masonry of two bastions fronting the lake were finished, the ditch excavated and part of the masonry foundations of two bastions towards the land. The interior of the barracks only partly completed to accommodate troops quartered at the post. The remainder is unfinished and has received some injury from remaining so long neglected. Fort Erie cannot be considered a strong military position, but as it is necessary always to have some troops stationed at this post to carry on transport and communication with Amherstburg and St. Joseph, the necessary security and accommodation might be probably obtained by completing this post.

On the 27th of May, 1813, it was dismantled and abandoned by the British forces and taken possession of by United States troops under Col. Preston, who in their turn abandoned it on 9th June, 1813.

On 3rd July, 1814, Capt. Martin, R. E., reported that 'Fort Erie is in a tolerable state of defence, strongly enclosed in rear with palisades; a small block-house commenced to flank the picketing; three guns mounted; two twelve and one nine pounder.'

"It surrendered to the American army on 3rd of July, 1814, and was immediately much strengthened by earthworks and abatis.

After the sanguinary battle of Lundy's Lane the American army precipitately retreated within the shelter of Fort Erie, which was immediately besieged by Lieut.-Gen. Drummond with his entire available force. Since its occupation by the Americans on 3rd July, the post had been greatly strengthened. To effect its speedy reduction Gen. Drummond decided on a night attack, when he expected to take the garrison by surprise, and at two o'clock in the morning of August 15th a vigorous and general attack was directed against the Fort and entrenchments. The Americans, however, anticipated the attack, and were fully prepared. The British were received at all points with a murderous fire of artillery and musketry, and although they succeeded in obtaining virtual possession of the Fort, the explosion of a mine within its walls caused such havoc in their ranks that they were finally compelled to withdraw with a loss of 950 men. Notwithstanding this disaster, General Drummond continued the siege, and in the course of a month succeeded in placing three batteries, mounted with heavy guns, within six hundred yards of the fortifications and prepared for another assault.

On 17th September, the Americans heavily reinforced by fresh troops from Black Rock made a sortie, drove in the pickets and succeeded in destroying two of the batteries before the British supports could be brought up.

A few days afterwards General Drummond abandoned the siege, the post remaining in possession of the Americans until November 15th, 1814, when it was evacuated and blown up by them.

Fort Erie has since remained in a state of utter ruin and neglect; its condition being a sad commentary upon the apathy that would deny proper care to a place rendered so sacred by such heroic displays of British valor and patriotism.

The whole respectfully submitted.

Yours very truly,

JAMES WILSON,
Superintendent.

APPENDICES.

1. Resolution of public meeting held at Fort Erie, addressed to chairman of Commissioners.
2. Copy of resolution of public meeting held at Fort Erie, addressed to the Hon. the Attorney-General.
3. Letter from W. M. German, M.P.P., to Hon. A. S. Hardy, heartily approving of the proposal.
4. Letter from Hon. A. S. Hardy to Superintendent asking for a report.
5. Plan of the locality.

The report of the Park Superintendent in connection with the lands at Niagara-on-the-Lake is also given as follows:—

NIAGARA FALLS,

August 26th, 1896.

J. W. LANGMUIR, Esq.,

Chairman.

DEAR SIR,—In accordance with your instructions, I have made an examination of the ordnance lands at Niagara-on the-Lake, including the remains of the fortifications known as Forts George and Mississauga, particularly with a view to reporting on the advisability of acquiring control of these properties for Park purposes, and in order to preserve them from further injury and neglect.

There are two large tracts of land pertaining to the Dominion Government at Niagara, viz: The Garrison Reserve near the mouth of the Niagara river, comprising some three hundred and forty (340) acres, and on which stands the ruins of Fort George, Butlers' Barracks, etc.: while half a mile away, and situate upon the shore of Lake Ontario, there is a tract of about sixty acres lying about the Fort Mississauga, the two pieces aggregating about four hundred acres. The Garrison Reserve is a fine level tract of land about fifty feet above the level of the river which it skirts for three-fourths of a mile, and from which it is separated by an almost perpendicular bank. At its greatest width it is about a mile, and its greatest depth is nearly three-quarters of a mile. The Erie and Niagara Railway was originally built across the east side of the reserve, and although much of the track was long ago removed, yet the deep cutting by which the road-bed was graded down to the dock level still remains, and is far from being a desirable feature. The southerly part of this old track still remains and now forms a spur from the Michigan Central Railway by which excursion parties are brought to "Paradise Grove," a pleasantly wooded portion of the reserve now under lease to the railroad company.

Old Fort George lies at the north-eastern extremity of the reserve, and now consists of an earthwork redoubt only, all the buildings having been destroyed excepting parts of the two magazines. A somewhat dilapidated wooden house stands within the enclosure which is occupied by the caretaker who pastures the ground.

At the south-westerly end of the reserve stands a large number of buildings, chiefly of wood and most of them in an advanced state of decay, which at one time formed the head-quarters for the troops stationed here, and were known as "Butlers' Barracks." Some of these are still made use of by the militia when in camp on the reserve, but most of them are past use and should be removed.

Several roads cross the common, but none of them have been macadamized. A speeding course has also been formed and some slight grading done in connection therewith, but not to any great extent.

With the exception of the south-easterly corner of the reserve which is known as "Paradise Grove," the land is practically destitute of good foliage or shade trees.

As this reserve is occupied for a short time each year by the militia, and is most suitable for the purposes of a camping and parade ground, nothing should be done which would in any way militate against its use for such a purpose: but a great deal could be accomplished to make it in every way more desirable as a military rendezvous for the volunteers and militia of this part of our Dominion.

To this end I would suggest transplanting a large number of young maples, elms and other desirable shade and foliage trees, and planting a fringe of timber around the whole of the reserve.

At the angles, and at points where it would not in any way interfere with the requirements of the military authorities, plantations of shrubbery should be made, with clumps of evergreens and flowering trees to afford a pleasing variety and for winter effect. A delightful driveway could be made along the high bank of the river and around the reserve, with numerous attractive and commanding outlooks over lake and river. The Fort should have a water service so arranged as to permit of every portion of the ramparts being supplied in the dry season and all the sodding maintained in proper condition by frequent cutting.

These works, together with some alterations to make the appearance of the dwelling within the earthworks more presentable, would add vastly to the attractiveness of this spot, so famous in the early history of our Province, and so sacred in the eyes of every patriotic Canadian by reason of the noble sacrifices of both blood and treasure made by our forefathers in the defence of our country and for the preservation of our unity with the great Empire of which we form a part.

Mississauga Reserve consists of an irregular shaped piece of table-land which is admirably adapted for a park. It has a frontage on Lake Ontario of three-fourths of a mile with a maximum depth towards the east end of one-quarter mile, taling off to a point at the west. Fort Mississauga is situated on the lake near the west end of the reserve, and consists of a substantial earthwork redoubt, star shaped, with a masonry tower in the centre. This work is in much better preservation than Fort George, being of a more recent construction, and having been put in repair some years ago by the Government in response to urgent appeals of the citizens of the town.

Owing to the erosive action of the lake water during storms the face of the redoubt has been damaged considerably, and from the same cause several acres of the frontage have been eroded from the reserve. If the fortification is to be preserved it is imperative that means be taken to protect it from the wash of the lake by permanent works constructed in stone or wood; in fact, the whole of the frontage requires to be protected in this way, as the storm water is relentless in its action and appears to be cutting away the bank at the rate of two feet per year on an average.

The area of the reserve proper is now about fifty-six acres with a four acre plot immediately opposite to it, which was originally intended for an hospital site, but has never been required, nor is it likely to be, for that purpose.

All this ground requires planting, especially around the boundaries, and a pleasure drive, with walks and arbors constructed. Much of the surface should be ploughed and levelled and seeded down with good grass where not planted. There is abundance of room for ball and cricket grounds, and the rifle ranges now located on this reserve need not be interfered with if suitable precautions are taken to exclude the public from the range when in use by the militia.

An efficient water supply could readily be obtained for this plot, as the town mains are already laid on the streets adjoining it.

Altogether a most charming park can be made at this point, with a moderate outlay, and the work of development could be practically completed within three years. The important works for the protection of the shore could be taken in hand after the other work is done, and a reach of two or three hundred yards put in each year until the whole is completed. By this means the total outlay could be divided into equal annual amounts and the expenditure in any one year minimized.

Doubtless the Town of Niagara would willingly assist in the work and put in the necessary water pipes and furnish water for the maintenance of the property. Electric lights where required would no doubt be also supplied by the town, and police protection afforded.

Fort Mississauga was constructed in the year 1814, and has not acted so prominent a part in history as Fort George; but in the heavy operations preceding the close of the war with the United States it had its full share of the so-called 'glorious panoply of war,' and is deserving of preservation as an earnest of our country's gratitude for the doughty deeds performed by her sons in its vicinity.

It is somewhat difficult to give an estimate of the cost of improving these important reserves, as so much must depend upon individual opinion of what should be done. Of course if quick effects are desired the cost will be correspondingly great, as it is much more expensive to buy and transplant trees of a large size and which are expected to furnish shade and landscape effect at once than to procure nursery stock and wait for a few years for it to mature.

Assuming that the latter course would of necessity be adopted, I am of opinion that the works outlined above can be performed for the following sums, viz.:—

Putting the grounds into shape, planting, driveways, walks, etc.....	\$10,000 00
Annual maintenance of both reserves, including in- terest on initial outlay	2,400 00

In addition to the grounds I estimate the cost of protecting the shore of the lake, in front of the Mississauga Reserve, to be \$10,000. Interest and renewals on this sum would add \$800 to the annual charge for maintenance, or say a total outlay of \$20,000, and a yearly charge of \$3,200.

At first sight this amount may appear to be large and difficult to obtain, but as the Dominion Government would have the benefit of the improved grounds for all military purposes, and without cost except in so far as maintenance of barracks is concerned, a yearly payment of a considerable portion of this amount might confidently be expected from that Government, and the patriotism of the Province could surely be depended on to contribute an equal amount, leaving but a comparatively small charge against the Park funds.

A map of the lands referred to is appended hereto.

Respectfully submitted,

(Sgd.) JAMES WILSON,
Superintendent.

The Park Superintendent made the following report in relation to the lands at Queenston Heights, which the Commissioners desire to have attached to the Park system :—

NIAGARA FALLS,
August 25th, 1896.

J. W. LANGMUIR, Esq., Chairman :

DEAR SIR,—As directed by you I beg to report on the present standing of the Park Commissioners in respect to the lands forming the Military Reserve at Queenston Heights, and the desirability of taking over the balance of these lands for park purposes. Originally the ordnance reserve at this point covered an area of about 137 acres ; but I find on a careful examination of the property that out of this total quantity only about seventy-five acres remain vested in the Crown, the balance having been disposed of by letters patent at various dates.

Of this seventy-five acres the Commissioners have been put in possession of the following several parcels, namely :

No. 1, 20th June 1891.—A license of occupation for a strip along the highway and down to the edge of the Niagara River.

No. 2, December 17th, 1895.—Lease of two parcels at base of the heights and near the margin of the river.

No. 3, May 5th, 1896.—Transfer of lands about Brock's monument.

The area of these several parcels is forty-one and one half acres. Some doubt having arisen, however, as to the sufficiency of the license of occupation referred to, it would be best to include the lands covered by this document in

with the remaining lands adjoining, which have not been transferred in any application which may be made for them to the Dominion authorities. For the sake of convenience it might be advisable to include the two small parcels secured by lease on 17th December, 1895, in the patent sought for, and thus obviate the necessity of making a yearly payment of rent, even though the amount is merely nominal.

By an inspection of the maps attached hereto it will be seen that in order to preserve the foliage along the escarpment forming the Queenston Heights, it is essential that these lands in question, which are tinted in pink on the map and cover an area of thirty-nine and eight-tenths acres, should all be included in any scheme for the development of the property as a part of the Niagara Falls Park system.

Nearly the whole of this territory is now covered with timber, much of it with evergreens: but a great variety of the most desirable indigenous foliage and shade trees are also here found, and although a great deal of cleaning up and trimming are required, yet the necessity of preserving this charming range of landscape is apparent to the most casual observer, and there can be no question that it should all form part of the monument grounds to be maintained in connection therewith, and the possibility of it being treated in any distinct and inimical manner by a separate control at any future time makes it all the more desirable that it should all be secured.

In respect to the expenditure which would be required to put the property in fair condition, I estimate that the sum of \$1,000 will do the works which are needed at once, and that an allowance of \$300 per annum would provide for its future maintenance, irrespective of the bond interest.

The whole respectfully submitted.

(Sgd.) JAMES WILSON,
Superintendent.

Viewed as a whole, the suggestions contained in the petitions from the various bodies, and which have been so minutely dealt with by the Park Superintendent in the foregoing reports, are most inviting. These several parcels of land are situated at important points on the river, one at either extremity and the third at the commanding position occupied by the Heights at Queenston, where long ago Niagara Falls began its mighty task of channelling out the far-famed canon—a work which has not ceased day or night since, and which to-day is one of the marvels of the world. For nearly the whole distance between the two extremities the shore of the river is now vested in the Commissioners, and the acquisition of these desirable parcels of land as terminal parks would make the Niagara Falls Park system exceedingly complete and comprehensive.

Upon the most careful consideration of the whole question, and a personal inspection of the grounds, the Commissioners came to the conclusion, while it was

clearly in the best interests of the Park system that effect should be given to the recommendations, that owing to the inadequacy of the funds at the disposal of the Commissioners to meet current engagements, the works could not be undertaken by the Board, either at Fort Erie or Niagara-on-the-Lake, without substantial assistance from the Dominion or Provincial Government. The Commissioners, however, strongly recommended the acquirement of the remaining portions of the ordnance reserve at Queenston Heights in order that the works of improvement might be carried on at that point to the greatest advantage.

OFFICIAL INSPECTION.

When learned in the early part of the summer that Sir Oliver Mowat had decided to sever his connection with the Ontario Government in order to accept the position of Minister of Justice for Canada, the Commissioners deemed it most appropriate that the retiring Premier should make a final inspection of the improvements and developments of the entire Park system with which he had been closely associated in his official capacity during the preceding ten years. They also considered it important that his successor in office, the Honorable Mr. Hardy, to whom would be committed the future interests of the Park, should become thoroughly conversant with the condition of the Park system by a complete inspection of every part of it. The Commissioners considered it advisable that such inspection and visitation should be official in character, and to that end His Honor the Lieutenant-Governor and Mrs. Kirkpatrick, the Cabinet Ministers of the Province and their wives, Sir Casimir Gzowski, the late Chairman of the Board of Commissioners, and Lady Gzowski, together with a few others who had been closely identified with the Park scheme, should be invited. In furtherance of this decision invitations were issued to meet at the Clifton House on the evening of 24th July, and on the following morning the party took a special car on the Niagara Falls Park & River Railway and made a thorough inspection of the Park properties from Chippawa to Queenston Heights.

The beautiful scenery of the Dufferin Islands was much admired, and the appropriate character of the improvements that had been carried out at that point in the way of foot paths and rustic bridges was approved and commended, as was also the substantial appearance of the long stretches of costly crib work constructed to protect the west shore from the destructive erosion of the rapid currents in summer and the heavy floes of ice in winter. It was pointed out that in addition to the crib work being used for a protection of the shore it was also intended to serve the further useful purpose of a promenade, to enable visitors to enjoy some of the finest scenery in the park. The various important improvements which had been made in the lower sections of the park, including the removal of unsightly structures, the construction of drives and pathways, the

planting of choice flowering shrubs and ornamental beds of annuals at the picnic grounds where accommodations are provided for large parties of excursionists were all viewed with interest and satisfaction by the visitors.

The visit to Niagara Glen, formerly known as Foster's Flats, afforded a great surprise to all, as the existence of such a wild and picturesque spot is little known to the public.

At Queenston Heights an inspection was made of the grounds and improvements, including the lands added by the commissioners since assuming the management of this portion of the park system. The remains of the old military forts or redoubts, erected by the British in 1814, and which have lately been included in the park territory, were examined with much interest and the unrivalled beauty of the panorama in view from the heights aroused the greatest admiration of the visitors.

During the afternoon the party drove across to the American side of the river where they inspected the electrical works and machinery of the large power house of the Cataract Construction Company. They also visited the extensive manufactories of the Niagara Falls Paper Works Company and of the Aluminum Works, and were much impressed with the importance and magnitude of these industries.

On Saturday evening, when the work of inspection was over, the visitors, together with a few local guests, were entertained at a banquet tendered them by the Commissioners at the Clifton House. After spending a quiet Sunday the party returned to Toronto early on Monday morning, all having heartily enjoyed their visit to the Park, and well pleased with the works and improvements which had been accomplished.

GENERAL WORK.

During the year a considerable amount of work has been done, more particularly in the Niagara Falls and Queenston Heights Parks, as will appear from a reference to the report of the Superintendent appended hereto. Not only has the property been maintained throughout the year in a creditable condition, but many works of permanent construction have been taken in hand and advanced as much as the means at the disposal of the Board would admit of.

Owing to the limited amount of park revenue in the past, and considering that the largest portion of it had to be applied to the annual payment of interest on the Park bonds, the Commissioners have been compelled from time to time to draw attention to the inadequacy of the balance available to carry on the works of improvement and meet current maintenance. Having regard to the expensive character of the works connected with the park system and the necessity of maintaining it in a manner worthy of this great national park, and in harmony

with the grandeur of the surrounding scenery, a much larger sum than the Commissioners have had at their disposal should be annually used for maintenance alone.

Although the Park has been maintained in a manner which has met with general approval, and at the same time several important works of a permanent character have been constructed, these facts only prove that the limited funds available have been expended with the utmost economy. In the various cities of the United States and other countries large sums are spent annually in providing suitable parks for the citizens, and the sentiment grows stronger year by year that even greater liberality should be exercised in this direction. There are few, if any, places of public resort where a generous appropriation for works of improvement could be used to better advantage than in the Niagara Falls Park system, which now comprises an area of some 675 acres, and which may be considerably increased in the near future. The utter inadequacy of the sum of \$20,000, which is annually available for maintenance and improvements, will be at once shown when a comparison is made with the expenditure in other places for park purposes. In last year's report reference was made to the amount which had been expended in connection with the State Reservation at Niagara Falls, where the area of the ground occupied is only 107 acres, and it may be of general interest to give the results of undertakings on a larger scale, taken from the latest published report of parks in the United States, and for which we are indebted to the courtesy of the park officials of the different cities.

Buffalo.—The park system of Buffalo has an area of 942½ acres, under the control of a board of park commissioners. Of this 718 acres is park land, 165 acres being boulevard approaches to the several parks from the centre of the city, and sixty-one acres in small squares scattered over the city. The total expenditure on its park system from 1870 to January 1st, 1896, had been \$3,778,-828.39; lands costing \$765,410.95, and improvements \$3,013,215.96. The expenditure in 1895 was \$194,589.60.

Boston. The magnificent park system of Boston contains 2,523 acres, including some 587 acres of flats reclaimed. There are thirty-seven miles of driveways, sixty-five miles of walks and eight miles of bridle-paths in connection with the parks. The amount paid for lands was \$6,030,784.25, and for improvements \$7,278,455.95, a total cost to date of \$13,309,240. The yearly expenditure for maintenance is now about \$120,000.

Brooklyn. Brooklyn park system at the end of 1895 comprised 689¾ acres within the city limits, and 878 acres outside of the city, making a total of 1,567¾ acres. The present estimated value of the city parks is \$33,971,000. The cost of the 878 acres outside of the city purchased in 1895 is given at \$4,415,000, or \$5,028.47 per acre. There are thirty miles of parkways in connection with the

park system, which cost an additional sum of \$12,300,000. The expenditure for maintenance for city parks in 1895 was \$386,079.39, and on bond account \$160,180.56, making a total of \$546,259.75.

Toledo. The park system of Toledo contains an area of 704 acres, of which the total value on January 1st, 1896, was estimated at \$825,870.63. This sum includes the cost for lands and improvements up to that date. In 1895 \$6,286.00 was paid for lands, and \$35,040.00 for maintenance and new works, or a total of \$41,526.00.

San Francisco. Golden Gate Park at San Francisco contains 1,040 acres. The citizens are justly proud of this park which is now one of the most attractive public parks on the continent. The expenditure for 1895 was \$114,000 for improvement and \$115,000 for maintenance, or a total outlay for that year of \$229,000.

St. Louis. St. Louis has a park system of 2,176 acres, of which a considerable portion was donated for park purposes, and the balance acquired at a cost of \$1,309,944.04. The sum of \$3,527,241.43 has been spent on park improvement, or a total of \$4,817,985.47 for all purposes. The amount expended for maintenance in 1894 was \$84,896.79.

Cleveland. The area of the park system of Cleveland is 1,100 acres, much of which was donated to the city. In 1895 there was expended in connection with its care, improvement and extension, \$133,164.77 for lands, \$247,292.10 for maintenance and improvements, and \$44,000 on bond account, making a total expenditure for the year of \$424,456.87.

Chicago. Chicago has three distinct systems of parks which are under separate Boards of Commissioners, but all connected by spacious boulevards that are maintained as parts of the general park system and are a charge upon the park funds. The following figures will show the principal items of interest in each case:—

	Park. (acres.)	Boulevard. (acres.)	Total. (acres.)	Cost to January, 1896.	Cost in 1895.
				\$ c.	\$ c.
South Park.....	994.90	311.85	1,306.75	13,796,681 74	786,271 23
West.....	596.45	{ 371.34 (12 miles)	967.79	7,210,228 71	334,267 51
Lincoln.....	300.00	200.00	500.00	7,000,000 00	448,712 92
Totals.....	1,891.35	883.19	2,774.54	28,006,910 45	1,569,251 66

New York City. The park system of the Metropolitan City, prior to its enlargement as Greater New York, including squares and open spaces, embraced a total area of over five thousand acres of which the principal developed area,

Central Park, together with Manhattan Square, covers some 859 acres of the most elaborate landscape gardening in America. The annual expenditure on the park system is over \$1,300,000, which amount includes the maintenance of the Art and Natural History Museums located in Central Park.

Montreal. Montreal is well provided with park areas. Mount Royal, 464 acres in extent, was acquired many years ago at a cost of over one million dollars. Logan's Park and St. Helen's Island, each of 85 acres, were secured by lease from the Dominion Government, whilst numerous squares and open spaces in the city make up a total of over 660 acres. Over \$25,000 is expended per annum in maintenance charges.

Suburban Parks. As an example of enlightened public sentiment in relation to the great economic value of park spaces, Essex County, New Jersey, may be quoted, where the sum of \$2,000,000 has recently been voted for the purpose of acquiring a series of parks within the county, to aggregate not less than 4,000 acres. The Board of Commissioners appointed to carry out the project have received *carte blanche* to select lands and make improvements forthwith.

Territorial Parks. Within the last few years many territorial parks have been set apart in the United States to ensure the permanence of the forest at important water sheds, or to preserve the characteristic and sylvan surroundings of imposing natural phenomena. California has four such parks aggregating 8,500 square miles, and Colorado a total of 4,850 square miles. In all there are over 20,000 square miles of park and forest reserves in the United States, in some of which, such as the Yellowstone National Park, important works to facilitate access to the chief points of interest are being carried out.

The Province of Ontario has quite recently established the Algonquin Park, with an area of 1,733 square miles, in the northern part of the Province, in addition to other and smaller reserves; while the Dominion of Canada has a park of noble proportions at Banff, near the base of the Rocky Mountains and within view of some of its snow-clad ranges.

Viewed in the light of these great civic and territorial undertakings the Niagara Falls Park system appears but small in area. When, however, the sublime beauty of its natural features is considered it stands out unique and unrivalled, and a comparison with other systems only emphasizes the need for greater efforts being put forth for the development of the property in accordance with the plans of the Commissioners in order to make the artistic condition of the grounds, even in some small measure, harmonize with the great natural charms which the Creator has impressed on the character of the surrounding scenery.

WORKS URGENTLY REQUIRED.

Among the many improvements which have been for some years in contemplation, and which the Commissioners have been obliged to postpone from year to year for want of funds, the laying of a permanent form of driveway from the picnic grounds southwards past Table Rock and on to the foot of Cedar Island is unquestionably the most urgent. The roadway for the whole of the distance (some 800 yards) is so frequently drenched with spray that it is impossible to maintain a respectable driveway with the material at hand, and from the same cause the gravelled footpath alongside the roadway is very often practically impassable. After viewing the matter in all its bearings the Commissioners have decided that the only way to overcome this difficulty and provide suitable approaches for visitors in carriages or on foot to the edge of the Horse Shoe Fall at Table Rock, which is the chief point of attraction in the Park, and to which access is most desired, is to put down with as little delay as possible a substantial permanent and clean roadway over the whole of this distance : and for the main footpath along the edge of the cliff, either flagstone, brick, or cement, as may be found to be most economical or desirable, and ample provision should be made at the same time for drawing off the surface water. The Commissioners find that the means now at their disposal for permanent works is quite inadequate to permit of either of these important measures being taken in hand, and they have therefore to ask assistance from the Government in order that the work may be done during the ensuing summer.

Attention has been drawn in previous reports to the serious erosion of the west bank of the Niagara River at many points between Chippawa and Fort Erie, owing chiefly to the grinding action of floating ice at periods of high water, caused by storms on Lake Erie, which drive a portion of its waters into the river. In this, as in other matters already referred to, the Commissioners have been precluded from taking active steps for want of funds.

UTILIZATION OF WATER POWER.

In the early part of the year application was made by the company having the privilege of developing electrical power for commercial purposes from the waters of Niagara River within the Park, for an eighteen months' extension of time within which, under their agreement with the Commissioners dated April, 1892, the initial works were to be constructed. Many meetings were held with the representatives of the company and a large volume of correspondence was carried on during the year in order that the Commissioners might become fully informed in respect of the reasons that called for the extension of the time limit on the part of the company. The Commissioners also desired to consider all the circumstances and conditions involved in the application, and their bearing upon the future interests of the Park.

As the subject is not only of great public importance but vitally affects the future interests of the Park, and as considerable opposition has been manifested to an extension of the time limit or to any variation of the agreement with the company—although such opposition is largely confined to the residents of the Niagara district—the Commissioners think that a historic resumé of all the facts connected with the utilization of the water power of the falls is called for in order that an intelligent opinion may be had in reference to the subject.

At the outset the fact must again be emphasized that in founding the Park the Government of Ontario made it a *sine qua non* that its establishment should not entail any financial burden on the province, but that the property should be made to yield a revenue sufficient for its yearly maintenance and improvement, and in addition pay interest on the whole outlay necessary for the purchase of the lands and for the extensive works of reclamation and reconstruction. The necessity of providing annually a sum of not less than forty thousand dollars for this purpose had from the beginning a most important bearing upon the policy of the Commissioners. Having made efforts for some years to secure this very large revenue without success, the Commissioners were compelled to look for new sources of income, and among these their attention was naturally drawn to the immense water power of the falls as one of the most promising means at command for raising revenue, more especially as a great enterprise had been organized on the American side, having in view the utilizing of the water power of the falls for commercial purposes. In the early part of the year 1889 a proposal was received by the Commissioners on behalf of a number of American gentlemen, among whom was ex-Governor Cornell and other well known capitalists, for a grant under which some of the water power of the Horse Shoe Fall could be used for the purpose of generating electricity as a motive power, and for lighting purposes, not only for local requirements but for transmission to cities and towns in Canada and the United States.

The Commissioners carefully considered the subject in all its bearings and decided that certain conditions should govern any agreement which might be arrived at, viz.: That all the constructions required for electrical works should be placed as far as possible from the bank of the river, and in a manner which would not detract from the Park design, and that all such works should be subject to the approval of the Park Commissioners, both as to position and character: and, further, that the conduct of operations within the Park should be subject to the rules and regulations framed by the Commissioners.

After protracted negotiations with the American applicants for the granting of a franchise on these conditions, an agreement was finally entered into under which the lessees were to pay twenty-five thousand dollars per annum, of which two years' rent was to be paid in advance, and at the expiration of ten years the rental was to be increased at the rate of one thousand dollars per annum until it

reached thirty-five thousand dollars per annum in the twentieth year. It was further agreed that the lease should be extended for three further terms of twenty years at the maximum rental of thirty-five thousand dollars per annum.

Time was given to the promoters to enable them to organize as an incorporated company and to obtain the requisite capital to successfully carry on the operations. Having failed to accomplish this, however, the Park Commissioners were finally compelled to terminate the negotiations.

Some time after, proposals for privileges similar to those arranged for with the American capitalists were received on behalf of Mr. Ferranti, an eminent English electrician who, in association with well known London capitalists, was then engaged in constructing an extensive electrical plant in London. As an evidence of bona fides, ten thousand dollars was required as a forfeitable deposit, and one year was granted in which to organize and conclude a definite contract. Owing to unforeseen delays and to the seemingly interminable difficulties in connection with the problem of transmission from their power station at Deptford to their London station, a distance of over nine miles, the time for the closing of the contract passed and the deposit was forfeited.

Several offers were then made on behalf of other United States capitalists who were desirous of securing the franchise, but as they all asked for a considerable reduction in the annual rental that had been previously decided upon, and proposed the payment of royalties and other considerations in lieu of such rental, the negotiations were necessarily abortive.

After some time had elapsed, the English capitalists renewed their application for the franchise, and having paid a second sum of ten thousand dollars as a forfeitable deposit, the option was renewed. Efforts, however, to finance the scheme in England again failed, but the representative of the English capitalists at last succeeded in inducing the present holders of the franchise, who are men in command of unlimited capital, to join the English capitalists, take up the option and pay in the large sum necessary to make up the two years' rental; whereupon an agreement was executed in April, 1892, and ratified by the Legislature of Ontario at the spring session in that year. Under the terms of this agreement the company were granted until May, 1897, to prepare plans, arrange finances, and begin work, which was to be sufficiently advanced on the 1st of November, 1898, to have water connections made for twenty-five thousand horse power, and to have actually ready for use, supply and transmission, ten thousand electrical horse power.

Since the execution of the agreement the holders of the franchise have complied with the financial obligations imposed, and have up to the present time paid in the sum of one hundred thousand dollars as rental up to 1st November, 1896, without receiving any material benefit therefrom. They now represent that as the transmission of electricity for considerable distances is still in the experi-

mental stage, and that before beginning work it is desirable, if not necessary, that this problem should be successfully solved, and additional time given, and they ask that an additional eighteen months be allowed for the completion of the works stipulated in the agreement to be ready by the 1st of November, 1898.

It may be pointed out that the works of the Niagara Falls Power Company, which are situated on the American side, and which are based upon precisely the same principle of development of the water power, and for which no rental is paid to the State, have been up to the present time wholly unremunerative, although the expenditure on the works and plant to date is stated to have been over five million dollars.

In view of the magnitude of the operations required for the carrying out of this gigantic undertaking, and the exceptional character of the machinery employed, the Commissioners deem it but reasonable that sufficient time be given the Canadian Company in which to thoroughly test and perfect all the appliances necessary to secure the success of the enterprise before operations are begun; and although it would appear that a somewhat smaller expenditure of capital will be called for in the execution of the works on the Canadian side, it will undoubtedly require an outlay of millions of dollars to complete the works which have already been submitted for the approval of the Commissioners.

When the great financial responsibility and keen business experience of the group of English and American capitalists forming the Canadian Niagara Power Company is taken into account, it must be admitted that it would be difficult to obtain a company more capable of developing the work in a broad and comprehensive scale, and that their application for an additional period of eighteen months (during which the rental is to be personally guaranteed) is at least well worthy of consideration.

It has always appeared to the Commissioners improbable that a market could be found in the vicinity of the Falls on the Canadian side for large units of electric power, at least for years to come; but that the success of the enterprise must depend chiefly on the possibility of transmitting the energy over a wide area and distributing it to large and small consumers in cities and towns more or less remote from the Falls. The difficulties attending the economic transmission of electrical power, even to places as near to the Falls as Hamilton or Toronto, do not appear to be as yet fully overcome; while the machinery and appliances required to convey and deliver the energy to consumers will under any circumstances require the expenditure of vast sums of money. It will thus be quite apparent that only an organization having the command of unlimited capital, and the knowledge which alone comes from experience, could reasonably hope to obtain a successful future.

In order to provide ample facilities for meeting any demand for electrical power which may arise prior to the carrying out of the works, the Company have offered to arrange with the Niagara Falls Park and River Railway Company, subject to the approval of the Government, for the temporary use of the surplus power which can be made available at short notice in the power house of that company, and they have also further intimated that the main works will be gone on with immediately it is found possible to secure responsible customers in the vicinity of the Falls on the Canadian side to assure a market for the use of even five thousand electrical horse power.

Having regard to the foregoing considerations, and the difficulties and delays which attended the securing of reliable parties to take up the franchise in the first instance, and, above all, having regard to the responsibility resting upon the Commissioners to secure the large revenue needed to maintain the park and its extensive outlying territories, the Commissioners, after the most careful and exhaustive consideration of the whole subject, decided to recommend the Government to grant the extension of eighteen months asked for on the following conditions:—

1. "That the Company shall not exercise the option in the agreement to terminate the same during the period covered by the extension, but that the payment of the stipulated rental should be guaranteed for that time.

2. "That in the event of a local demand for electric power arising in the interval, the Company should be authorized to arrange for the temporary use of the Niagara Falls Park and River Railway surplus power, but that the use of such power shall not be sanctioned beyond the date of the extension asked for, nor to an extent beyond the present capacity of the railway wheelpits and buildings, and upon such other terms and conditions as may appear just and as shall protect the interests and revenues of the Park.

FINANCIAL.

The following summary will show the receipts and expenditures for the year :

RECEIPTS.

Balance on hand at Imperial Bank, January 1st, 1896..	\$2,336 54
Rental from photo and refreshment privileges, and the right to conduct visitors "Under the Falls"	8,200 00
Rental from the Niagara Falls Park & River Railway Company	7,500 00
Rental from the Canadian Niagara Power Company ...	25,000 00
Receipts from tolls on carriages over islands ..	\$1,516 40
" Brock's Monument Park	218 13
	<hr/>
	1,734 53
Receipts from sundries, sales of old materials, etc., etc..	115 15
Imperial Bank, interest on deposits	65 40
" overdraft	3,473 06
	<hr/>
Total	\$48,424 68

EXPENDITURES.

Capital Account—

Permanent improvements, including cost of materials, etc	\$4,227 51
Wages of mechanics and laborers	2,723 76
Land purchases	1,201 07
Miscellaneous	24 79
	<hr/>
	\$8,177 13

Maintenance Account—

Salaries and wages, including wages of laborers, teams, etc	\$11,679 15
Materials	2,722 91
Office expenses	352 51
Commissioners' expenses	311 36
Miscellaneous	852 53
Interest on overdrafts during year	134 90
	<hr/>
	16,053 36

Coupon interest and charges	24,194 19
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Total	\$48,424 68
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All of which is respectfully submitted.

J. W. LANGMUIR,
Chairman.
GEORGE H. WILKES,
B. E. CHARLTON,
JAS. BAMPFIELD.

APPENDIX.

TO THE COMMISSIONERS FOR THE
QUEEN VICTORIA NIAGARA FALLS PARK:

GENTLEMEN,—I beg to submit the following report of the works done in connection with the Park during the year ending 31st December, 1896.

MAINTENANCE.

The general works incident to the maintenance of the grounds comprised within the limits of the Parks proper, at Niagara Falls and at Queenston Heights, have all been carried out with as much care and at as little expense as was possible. As the amount available for this purpose is practically uniform from year to year, it is of course impossible to effect any marked changes; but as the area reclaimed and brought under close cultivation is extending each year, it becomes more necessary to economize in order to overtake the work, and ere long it will be necessary to increase the amount if even the present standard is to be maintained.

The means taken to afford facilities to picnic and excursion parties visiting the Park were very much appreciated, and the Canadian excursionists were even more numerous than in any previous year, although in some cases the parties were not so large.

Good order was maintained throughout, and notwithstanding the persistent coming of several crooks and pickpockets, especially with excursion parties from Buffalo, the Park police were successful in a marked degree in preventing lawlessness.

LAST YEAR'S REPORT.

The issue of the special illustrated report of the Park for the past ten years, which was sent out early in the season, was very much appreciated, and aroused a greater interest in the Park and its outlying territories than had been previously manifested. The report of the results of the classification of the plant life found on the premises was of special interest to very many, as the study of botany is now required in all the superior schools of the Province, and the vicinity of the Falls is well known to be the most favorable situation for the practical study of this delightful science.

The learned monograph on the geology of the Niagara from the pen of Professor G. K. Gilbert excited great interest, and has led to much research and investigation by eminent geologists during the past season, which will doubtless result in the attainment of a more perfect knowledge of the past history of our noble river.

NEW WORKS.

In addition to works of maintenance, a great deal has been accomplished in the course of the past season in providing new and permanent improvements to the property. Last year reference was made to the important work, then under way, of protecting the shore of the upper reach of the river from erosion by putting a substantial cribwork revetment at the edge of the stream from the Burning Spring gate down to Clark Hill. This work has now been practically completed, and the undermining of the high bank of the river, which had in many places suffered serious injury from this cause will in future be prevented. The extension of the pleasant walk, known as Riverside Ramble, from its present termination to the Dufferin Gate, can now be proceeded with. This I propose should be a gravelled walk in preference to timber, six feet in width, and protected by a substantial rustic railing on the water side. One or two rustic arbors, located in cozy spots, should also be provided.

The cribwork at Tempest Point has been extended down stream, and further danger from erosion at this point is thereby reduced to a minimum.

Another important work of construction was the building of a proper closet and lavatory at Table Rock, where visitors congregate in large numbers throughout the season. A substantial stone building equipped with modern conveniences has been erected for this purpose, and the surroundings greatly improved.

Reference was made in last year's report to the preparatory work then performed for the extensive bed of ornamental shrubbery designed to fill the swampy space between Table Rock House and the restaurant building. This was completed early in the season and planted with a choice selection of the best perennials and full flowering plants, arranged so as to afford a constant succession of bloom throughout the season. The rhododendrons and azaleas, which had been planted in the picnic grounds as an experiment, were found to winter well and were removed to this bed where it was considered they would do even better. It is intended to add considerably to the collection of choice varieties of herbaceous and flowering plants in the ensuing spring.

As the season of 1896 was most unfavorable for planting out new stock, and the means at command were limited, extensive work in this connection was deferred; but over three hundred selected thrifty specimens of hardy trees and shrubs were procured and set out, and in addition a large selection of our nursery grown stock was used to fill up bare spaces.

An abundant supply of bedding plants was afforded by our propagating houses, erected two years ago, and which have hitherto cost but a trifle to maintain. It would certainly add very much to the attractiveness of the Park if a suitable greenhouse were built in connection with the propagating houses, for the display of delicate and winter blooming plants, and to which the public should have free

access We have already the nucleus for a very fair exhibit, and a comparatively small outlay would suffice for a building that would answer the purpose for many years, and which could be extended if found desirable.

The picnic grounds were improved by the placing of a neat sandstone coping around the circular pond near the monument to Sir Casimir Gzowski; the remaining two ponds require to be similarly protected, as owing to the crowded state of the grounds on the occasion of large excursions, the safety of children is endangered for want of proper guards.

Ever since the construction of the electric railway, the bridge leading to Cedar Island has been a source of anxiety, owing to the narrow space left for carriages at the eastern end. During the season a substantial double way bridge, on a different alignment, and provided with strong rustic railings, was substituted and the surroundings put into better shape. Near the south end of Cedar Island a dam was placed across the channel in order to raise the water surface to something like its former level, as the excessively low water prevalent in the river for the past three or four years had left the timbering of the south bridge much more exposed than formerly, and therefore subject to decay. Incidentally it has much improved the appearance of the channel above the site of the dam.

On the Dufferin Islands, several reaches of the pathways, where the shallow streams were crossed by wooden bridges, were filled in with gravel and permanent walks made. The numerous little bridges which were left all received a thorough overhauling, and neat rustic railings put up in each case.

VICTORIA PARKWAY.

The northern section of the Victoria Parkway, or from the north limit of the town to the Muddy Run Creek, was Macadamized early in the year; in accordance with an agreement entered into with the town authorities of Niagara Falls. This parkway is thenceforth to be maintained at the joint expense of the town and the Park, and some repairs were effected under this agreement during the year, chiefly in the vicinity of the Clifton House.

North of the Railway Suspension Bridge, there is no guard railing along the edge of the cliff. As this region is much visited by sight seers eager to gaze on the turbulent waters down in the canon, and in order to do so to advantage it is necessary to stand upon the very edge of the precipice, it would appear to be a desirable precaution that a railing similar to the one which extends along the edge of the bank from the Suspension Bridge to Table Rock should be continued northwards as far as the Whirlpool Point.

In front of the town the thickets of sumach and red cedar along the cliff between the edge and the railway, were carefully trimmed and vistas of the river afforded at desirable points along the way.

NIAGARA GLEN.

A beginning was made this year in opening up the beauties of the Niagara Glen to the public. Pathways were cut from the track of the electric railway to

the edge of the cliff, a substantial stairway of some seventy steps, in short easy stages, was constructed to the talus below; and from that point to the water's edge a winding pathway of easy descent made by which visitors can enjoy some of the delightful scenery of this romantic spot. It is proposed that this walk shall be extended the ensuing summer, and in time all the interesting portions of this remarkable work of nature be made accessible.

QUEENSTON HEIGHTS.

The new driveway, which was undertaken early last year, was completed early in the spring and proved of great service in affording much more convenient access to the monument and grounds. The open portions of the lands which were acquired on the west of the Government ground were levelled and sown, and a fringe of nice young maples, elms and birches planted on each side of the roadway and along the bare western boundary. The bush surrounding the earthwork reoubts, and extending south to the highway, was thoroughly underbrushed and cleaned up, and the interior of the redoubts stripped of their rank overgrowth of wood.

During a storm in the winter, the flag staff on the edge of the heights was blown down and a new one was required. A magnificent 90 ft. stick of white pine was procured, trimmed into suitable shape, equipped with the necessary gearing, and erected in the same place as the former one, but in a much more substantial manner; the base being enclosed in a heavy bedding of concrete, and the entire pole above the ground surface well coated with paint.

About twenty acres of Government property was added to the lands under park management during the year, and a beginning was made towards cleaning up this additional territory.

Nothing was attempted in respect to the narrow strips of property vested in the Commissioners, which extend along the upper reach of the Niagara River, from Chippawa to Fort Erie, and along the lower river from Queenston to Niagara-on-the-Lake.

Reference to the continual encroachment of the river on much of this long stretch of property was made in previous reports, and I have again to recommend that steps be taken on a comprehensive scale to prevent the serious wasting which is now going on, and to confine the waters of the river within permanent bounds.

I would also draw attention to the advisability of having a survey made of all this outlying territory, in order to determine the extent of the rights of the Commissioners under the patents issued by the Crown.

Respectfully submitted,

JAMES WILSON,

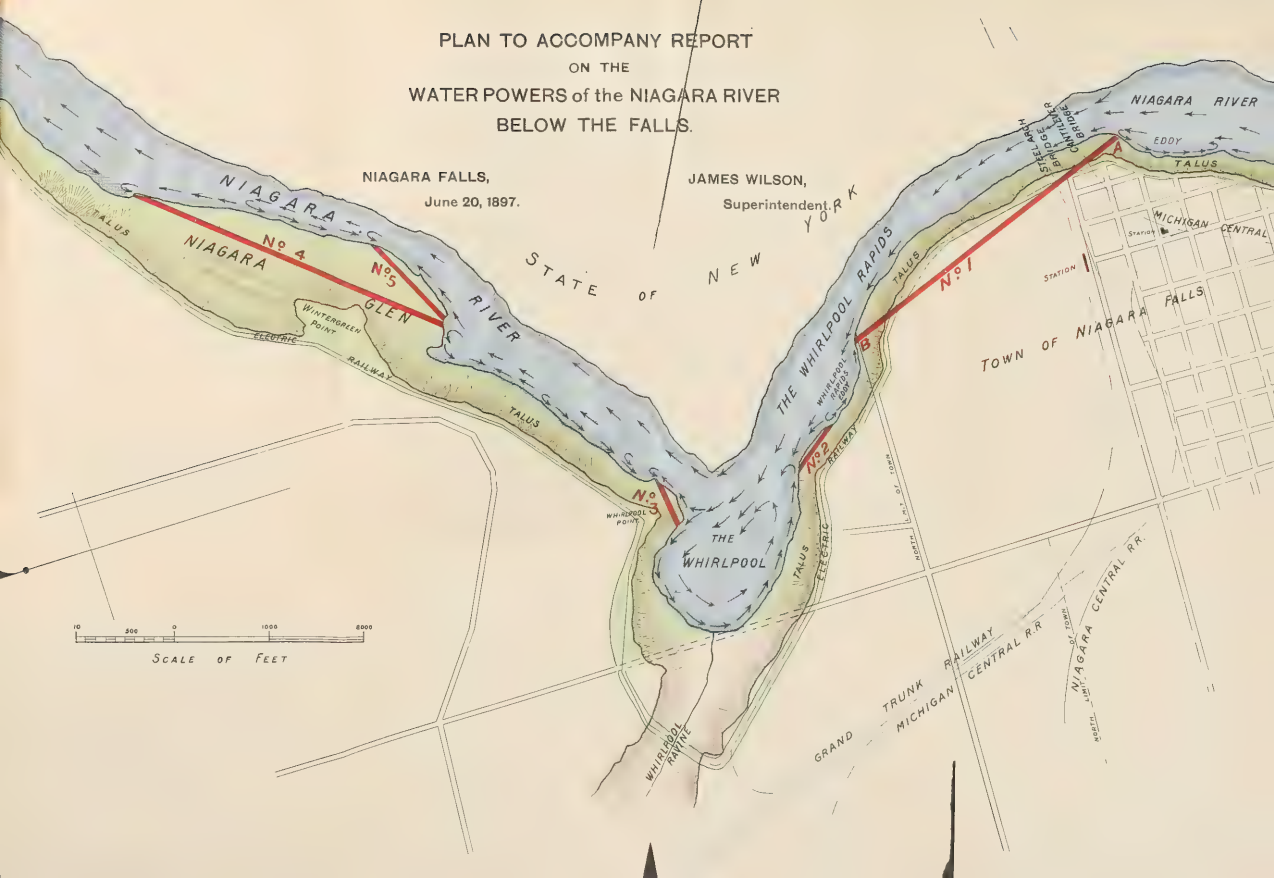
Superintendent.

NIAGARA FALLS, February 1st, 1897.

PLAN TO ACCOMPANY REPORT
ON THE
WATER POWERS of the NIAGARA RIVER
BELOW THE FALLS.

NIAGARA FALLS,
June 20, 1897.

JAMES WILSON,
Superintendent,
YORK



REPORT
OF THE
COMMISSIONERS
QUEEN VICTORIA NIAGARA FALLS PARK.
1897.

PRINTED BY ORDER OF
THE LEGISLATIVE ASSEMBLY OF ONTARIO.



TORONTO :
WARWICK BRO'S & RUTTER, PRINTERS & CO., 68 AND 70 FRONT STREET WEST.
1898.

TORONTO, 12th January, 1898.

SIR,—I have the honor to transmit herewith, for submission to His Honor the Lieutenant-Governor, the twelfth annual report of the Commissioners for the Queen Victoria Niagara Falls Park, being for the year ended 31st December, 1897

I have the honor to be,

Sir,

Your obedient servant,

J. W. LANGMUIR,

Chairman.

Hon. E. J. DAVIS, M.P.P.,
Provincial Secretary.

TWELFTH ANNUAL REPORT

OF THE

COMMISSIONERS

FOR

QUEEN VICTORIA NIAGARA FALLS PARK.

*To the Honourable SIR OLIVER MOWAT, K.C.M.G.,
Lieutenant-Governor of the Province of Ontario.*

MAY IT PLEASE YOUR HONOR :

The Commissioners for the Queen Victoria Niagara Falls Park beg to submit their twelfth annual report, together with a statement of the receipts and expenditures for the year ended 31st December, 1897.

Before entering on the record of their operations during the past year the Commissioners gladly avail themselves of the opportunity to express their great gratification in finding your Honor once more officially associated with the important work in which they are engaged. They can never forget that the establishment of the Park as a national heritage, under the control of the Government of Ontario, as well as its subsequent extension and maintenance, has from the first found in your Honor a warm friend and supporter.

In their last annual report the Commissioners referred at some length to the application made to them by the Canadian Niagara Power Company for an extension of the time stipulated in the agreement of April, 1892 (ratified by Statute of Ontario 55 Vic. c. chap. 8) for the commencement of the operations of that Company in the Park. The report fully sets out the reasons which led the Commissioners to recommend as they did that the time allowed the Company for the completion of the first section of the work should be extended for a period of eighteen months from 1st November, 1898. Although the Government could not see its way to sanction the recommendation for the extension of the time limit allowed the Company for this work, they came to the conclusion, after protracted negotiations and after giving the matter the fullest consideration, and having regard especially to the urgent demand for electrical power by various industries.

located in the immediate neighborhood of the Falls, to grant permission, as the Commissioners recommended, to the Canadian Niagara Power Company to arrange with the Niagara Falls Park and River Railway Company for the utilizing of the surplus power which the latter Company had available for use in its power house in the Park. In accordance with this authority an agreement, authorized by the Lieutenant-Governor in Council, has been approved by the Commissioners, which will permit of a substantial supply of electricity for lighting and power purposes being furnished local users without delay. This arrangement does not in any way relieve the Canadian Niagara Power Company from its covenant in the original agreement as to the time for the commencement and completion of their proposed works within the Park.

The terms of this agreement are as follows :

This agreement made the twenty-seventh day of November, one thousand eight hundred and ninety-seven between the Canadian Niagara Power Company (hereinafter called the Power Company) of the first part and the Niagara Falls Park and River Railway Company (hereinafter called the Railway Company) of the second part, and the Commissioners for the Queen Victoria Niagara Falls Park acting herein on their own behalf as well as on behalf and with the approval of the Government of the Province of Ontario (and hereinafter called the Commissioners) of the third part,

The expression "statutory agreement" as hereinafter mentioned and applied to said Companies respectively shall be deemed to relate to the agreement and statutory enactments contained in the statutes respectively relating to the said Companies.

Whereas the Power Company and the Railway Company respectively derive their powers and rights under the Acts of the Legislature of the Province of Ontario passed in the fifty-fifth year of Her Majesty's reign and numbered chapters eight and ninety-six of 1892, whereby agreements made with the Commissioners are confirmed and declared to be binding on the parties hereto;

And whereas the Railway Company by its statutory agreement with the Commissioners obtains from the waters above the Falls at the point of intake now used water power to generate electricity for the purposes of working the railway and the machinery necessary to operate and light the railway.

And whereas the Railway Company has capable for development in its power-house by the means aforesaid hydraulic power in excess of its present needs for the above purposes (and as by the agreement limited) ;

And whereas the Power Company until such time as it shall be prepared and ready to generate electricity or pneumatic power in terms of its statutory agreement with the Commissioners or as may be required thereby is desirous to supply the demand for immediate use of electricity for manufacturing purposes by local users of power within Ontario, provided such power can by consent of Commissioners be obtained :

And whereas the Railway Company and the Power Company, subject to the approval hereinafter mentioned, have agreed to develop electric power as hereinafter set forth by means of the said hydraulic power if duly licensed to deal with the same and the Commissioners have approved of their proposals to supply power for the purposes aforesaid and are willing to extend to the Railway Company power to use such surplus hydraulic power as may now be developed by the intake of water as now taken and used without further increasing the volume of water now taken at such point of intake and such concession to the Railway Company by the Commissioners being also made at the request of the Power

Company, such request being testified by being parties to these presents and for their advantage notwithstanding anything in the statutory agreement between the Commissioners and the Power Company contained:

These presents witness:

1. The Railway Company will without unnecessary delay, and at its own expense in its power house within the Park as now located and as the demand thereof may arise (but within the capacity of its plant), develop, generate and furnish to the Power Company hydraulic power upon a horizontal shaft attached to the shaft of the turbines and above the floor of the power house, and the Power Company will without unnecessary delay, and at its own expense, supply, instal and operate the necessary electrical machinery, apparatus and conductors to transmute such hydraulic power into electrical power, which electrical power the Power Company will transmit to points beyond the Park and supply the same to all persons, parties, or corporations desirous of using the same within a radius of four miles from the said power house in the Park, at prices and terms to be agreed upon between the Power Company and the Railway Company, the prices and terms not to exceed the prices charged for similar quantities and services supplied for similar purposes and at similar distances by the Niagara Falls Power Company on the American side for use on said American side. Provided always, that all works to be done and executed by the said Companies or either of them within the park or within the boundaries of the Park as such boundaries are now known shall be in accordance with the terms and conditions and subject to the approval of the Commissioners as by the statutory agreement between the Commissioners and the Power Company hereinbefore mentioned is stipulated, whether such terms and conditions relate to works of construction or works, wires and cables for the transmission of electricity or pneumatic power to points within or beyond the park, and the said Companies or either of them shall not execute works within the Park other than limited or specified by the said statutory agreement between the Commissioners and the Power Company and in accordance with the terms thereof and as provided and limited by these presents.

2. Annually during the continuance of this agreement, the Power Company shall pay to the Railway Company a sum of money equal to ten dollars per electrical horse power per annum for each electrical horse power furnished and sold under this agreement for lighting, heating or power purposes, excepting for the one hundred horse power referred to in the fourth clause of this agreement. Such payments shall be made within thirty days after the expiration of each three months during this agreement, and within ten days after the expiration of the said three months the treasurer of the Power Company shall make and deliver to the Railway Company a verified statement of the gross amount of its receipts from such sales for the preceding three months, and the books of the Power Company shall be open to inspection and examination by the treasurer of the Railway Company, for the purpose of verifying the correctness of such statement as to such gross receipts.

3. Six months after the receipt of written notice from the Power Company (served after 1st October, 1899) of its readiness to deliver power by means of works and plant constructed under and in pursuance of its statutory agreement with the Commissioners hereinbefore mentioned, the Railway Company agrees that the Power Company may take over such customers and contracts as it may then have for electric power to be supplied or sold under this agreement, and the Railway Company shall cease operations hereunder and the Power Company

shall thenceforth supply the same from its own works and plant, and thereupon this agreement and all rights of the Railway Company thereunder shall cease and terminate.

4. While the Power Company is constructing its proposed works within the Park, under and in pursuance of its statutory agreement with the Commissioners hereinbefore mentioned, the Railway Company shall during such construction allow the Power Company, out of such available surplus power free of charge and when and as called for at the Railway Company's power house in the Park, power for light and power purposes during such construction but not in excess of one hundred electrical horse power, provided that if at such time that amount of surplus electrical power be not available, the Railway Company may and will furnish in lieu thereof and free of charge power to that amount on the horizontal shaft attached to the shaft of the turbine above the floor of the power house and space within its power house sufficient for the operation of a dynamo providing such amount of power driven by the shafting from the turbines of the Railway Company, all of which shall be operated in the Railway Company's power house for the benefit of the Power Company during the construction of the first section of its works specified in clause ten of Power Company's said statutory agreement with the Commissioners, provided also that if during the term of this agreement the Power Company shall at no time have sold two hundred and fifty (250) horse power then the Railway Company shall not be obliged to furnish the Power Company any free power, anything in this clause to the contrary notwithstanding.

5. This agreement as between the Railway Company and the Power Company shall be operative for the term of three years from 1st October, 1897, but may be terminated by the Power Company at any date after 1st October, 1899, provided six months' written notice shall have been given to the Railway Company, as hereinbefore provided, and upon such termination the Power Company will, to the extent of the ability of its works then completed, assume and fulfil all contracts then outstanding for the sale of power which shall have been theretofore made by the Power Company, with the Railway Company's prior approval.

6. It is mutually agreed by and between all the parties hereto that neither the execution of this agreement, nor any operation thereunder, shall be construed as in any way constituting a waiver or suspension of any right of the Power Company or the Commissioners under the charter and statutory agreement between the company and its incorporators and the Commissioners, nor as conceding by the Government or by the Commissioners any extension of the rights of the Railway Company under its charter or its statutory agreement with the Commissioners, nor as in any way waiving the individual liability of any of the incorporators of the Power Company named in its said charter and statutory agreement, nor as in any way affecting the terms and conditions of the statutory agreement heretofore made between the Commissioners and the Power Company or Railway Company (excepting the temporary right hereunder given by the Power Company to the Railway Company), nor as in any way extending the time of the Power Company or the contracting parties under the Power Company's charter or statutory agreement to begin and complete the works under the said statutory agreement with the Commissioners, nor as any delay or suspension of notice already given to proceed with such works, nor as any authority or excuse for any delay in the commencement, construction or completion of said works.

7. If this agreement is terminated by the Power Company either by notice, consent or effluxion of time, then upon such termination, and, provided the Power Company be not ready to assume and fulfil the contracts then outstanding as provided in the fifth clause of this agreement, the Commissioners shall have the right in their discretion to acquire from the Power Company the electrical machinery, fixtures and appliances, contracts and business operated hereunder, and the same shall, in case they shall be taken over, become vested in the Commissioners at the then value of such electrical machinery, fixtures and appliances as such without claim for compensation for such contracts or business as may (if the parties cannot agree) be determined by a commission to be appointed by the Lieutenant-Governor-in-Council. In such case the Railway Company undertake and agree, upon request of the Commissioners, to carry out the terms of this agreement upon their part upon the same terms as for the Power Company for such time as the Commissioners may desire. In the event of the Commissioners taking over the said machinery, fixtures and appliances, they shall have the same right to give notice terminating the agreement with the Railway Company as the Power Company has hereunder.

8. And for greater certainty it is hereby agreed by and between the Commissioners and the said parties severally as follows :—

(a) By the Power Company, its corporators and promoters in the Act of Incorporation named, and any or either of them, that neither these presents nor any other act, matter or thing herein or hereby contained, nor any matter or thing done in pursuance hereof shall be taken or held to be any acknowledgment or recognition by the Commissioners that the Power Company has been properly or fully organized or formed within the terms of the Act or statutory agreement, nor shall the said corporators or promoters, or any or either of them, be deemed to have been freed or released from their individual liability, if any, to the Commissioners in respect to the said Act and statutory agreement.

And the Power Company, its corporators and promoters as aforesaid covenant with the Commissioners that if at any time prior to the termination of this agreement, said Power Company, its corporators and promoters, in order to terminate the statutory agreement and lease of 7th April, 1892, with the Commissioners, shall give three months' notice in writing required by clause five thereof, or if at any time during the continuance of this agreement, the Power Company, its corporators and promoters, shall fail to pay the annual rental reserved under the terms of said statutory agreement of April 7th., 1892, as therein provided, then and in either such case the Power Company will surrender its rights under this agreement, and this agreement shall terminate and cease and the Commissioners shall have the privilege of exercising the right granted them under the seventh clause of this agreement in the case of its termination by notice, consent or effluxion of time.

And the Power Company, its corporators and promoters, covenant with the Commissioners, that up to and including the 1st of November, 1898, the Power Company will pay the Commissioners the rental agreed to be paid half-yearly, notwithstanding anything in the statutory agreement provided.

(b) By the Railway Company: That nothing in this agreement contained shall be taken to confer upon the Railway Company any powers or rights save those hereby expressly conferred, or permit the Railway

Company to use or supply more water or enlarge or extend the capacity race flume or intake of water without the consent in writing of the Commissioners to be first approved by the Lieutenant-Governor-in-Council.

9. And the Commissioners, parties to the third part hereto, hereby grant to the Railway Company the right to use the surplus power to be derived from the Niagara river as hereinbefore described for their behoof and advantage, and the Commissioners do also grant the same to the Power Company in so far as such is capable of being developed and extended by the Power Company in accordance with the terms of these presents, and such grants to the said Companies are upon the conditions and are accepted by such Companies as subject to the conditions that such Companies do observe and perform towards the Commissioners all duties and obligations towards the said Commissioners in these presents contained, and upon breach of any of the said duties, obligations and conditions herein agreed to be done and performed by the said Companies, or either of them, it shall be optional with the Commissioners to withdraw and cancel such grants, rights and privileges to either or both of the said Companies.

10. It is hereby agreed by and between the Power Company and the said parties respectively, and these presents are upon this express condition that the said Power Company shall, within fifteen days after the execution hereof, enter into contracts for the supply of the machinery necessary to the generation of power as hereinbefore mentioned, and shall further be prepared to provide electric power as herein agreed upon within a period not exceeding five months from the date of the execution of the said agreement.

In witness whereof the parties hereto have duly executed these presents.

Signed, sealed and delivered in the
presence of

FRANCIS U. WILCOX.

Attest as to the signatures of
N. F. P. and R. Ry. Co. and
Commissioners,

WALLACE NESBITT.

EDWARD B. OSLER,
President.
R. A. SMITH,
Secretary.

The Canadian Niagara Power
Company.

ALBERT D. SHAW,
President.
W. B. RANKINE,
Secretary.
J. W. LANGMUIR,
Chairman.

While it is a matter of regret to the Commissioners that the carrying out of its undertaking should have been so long delayed by the Power Company, and that the benefits to the locality which have been so eagerly looked forward to have thus been deferred, yet the Commissioners are of opinion that the experience gained in the construction of the very extensive generating plant on the American side will be of very great advantage to the Company in establishing its works in Canada on a sound basis from the beginning. This will especially hold true in respect to the transmission of electrical energy to distant points, the successful accomplishment of which will, without doubt, be one of the chief inducements to

generate power on a large scale at this place. The knowledge now being gained by the actual working of the Niagara Falls, Buffalo and other long distance transmission lines, cannot but greatly add to the ultimate success, in a broad and comprehensive manner, of the Canadian Niagara Power Company's plant in the Park.

Reference was made in last year's report to the desirability of securing the thirty-three or thirty-four acres comprising the remainder of the ordnance lands at Queenston Heights, in order that these outlying parts of this territory might be embodied in the Park and be cared for conjointly with the lands now under Park control. While there is every reason to believe that the Government of Canada favors this proposal, the Commissioners have not up to the present been put in possession of these lands. With reference to the several petitions from public bodies presented to the Governments of Ontario and Canada proposing to transfer to the jurisdiction of the Commissioners the lands forming the ordnance reserves at Fort Erie and Niagara-on-the-Lake, no further steps have been taken, as the funds at the disposal of the Commissioners will not permit of their undertaking additional burdens without substantial assistance.

The Commissioners regret to learn that the work of spoliation in connection with the historic remains at Fort Erie, which was referred to in the special report of the Park Superintendent of August, 1896, is still going on.

During the past season application was made on behalf of several gentlemen, at Toronto, for certain privileges in connection with the developing of the water power of the Niagara river below the Falls, the specific requests being for rights at the outlet of the Whirlpool and at Niagara Glen. In order that the Commissioners might be able to consider these applications intelligently, instructions were given to the Park Superintendent to make a survey of the river levels and to report to the board on the possibility of utilizing the rapids of the river between the Cantilever Bridge and Queenston for the purpose of power development, together with a plan showing the various sections of the river where power could with advantage be obtained, and the approximate relative cost and importance of each separate development. The Superintendent carried out his instructions with all practicable despatch, and submitted the following report on this important subject to the Board :—

J. W. LANGMUIR, Esq.,

Chairman.

DEAR SIR—In compliance with the instruction of the Board, I beg to make the following report upon the practicability of developing power for commercial purposes at various points along the west shore of the Niagara river between the Cantilever Bridge and the Village of Queenston.

According to the surveys made from time to time by the United States geological and lake surveyors, there appears to be a total mean difference of level between the waters of the Niagara river at the base of the Horse Shoe Fall and the waters of Lake Ontario of 110 feet. Of this total about two feet is found in the navigable reach of the river from Lake Ontario to Queenston, and about sixteen feet from the base of the Horse Shoe Fall to the beginning of the rapids, a short distance south of the Cantilever Bridge, leaving some ninety-two feet for the fall accomplished in the rapids above and below the Whirlpool. The total distance covered by the rapids, if measured along the centre of the river, is about five miles.

The inclination of the surface of the river, in the portions covered by the rapids, does not by any means present a uniform cross-section, owing to the contracted width of the stream at some points and the very broken nature of the waterway. For instance, the part of the river locally known as the Whirlpool Rapids has a magnificent and resistless sweep all the way from the Cantilever Bridge down to the most northerly extremity of the Whirlpool, but on either shore, owing to the obstructions caused by immense boulders and masses of rock projecting well into the stream, the onward flow of the water is interfered with, numerous eddies or counter currents are formed, and the inclination of the surface of the water at the shore line is made very irregular, and at some points is much below the central elevation of the stream. A short distance south of the Whirlpool the shore line on the Canadian side recedes considerably, forming a long shallow bay, called on the plan "The Whirlpool Rapids Eddy," in which there is a strong current flowing up stream along the shore for the whole length of the bay. Precisely the same condition holds with respect to the Whirlpool itself, where the sweep of the current after crossing to the northerly extremity or the head of the pool is deflected to the left and northwards, and flows swiftly along the Canadian shore, and against the direction of the main stream, to the southerly extremity of the Whirlpool, a distance of over half a mile. At other points along the river, especially at either end of Niagara Glen, the same conditions prevail; and where the changes are well defined and are a permanent characteristic of the stream, the difference of level between the adjacent counter currents indicates, in each case, the head which may be obtained, and the direction of the shore eddies, above and below the rapids, defines clearly on the ground the distance which will have to be overcome by means of a conduit or otherwise in order to obtain the greatest advantage from the head of water at the point in question.

By a reference to the plan accompanying this report it will be seen that there are four or five principal points at which it would, in my opinion, be entirely feasible to take advantage of the difference of the shore levels of the river to develop substantial water-power plants, and by the aid of electricity or other means of transmission to points above the cliff, make them available for commercial purposes generally at a reasonable outlay.

These several divisions or distinct water-powers may for convenience be referred to by numbers, as on the plan, and will be considered separately.

No. 1. From the head of the rapids near the Cantilever Bridge at "A" on plan to the head of the Whirlpool Rapids eddy at "B," in a distance of some 3,400 feet there is a continuous rapid with a fall at mean water level of about forty-four feet.

No. 2. From the northern extremity of the Whirlpool Rapids eddy across the projecting point which separates it from the Whirlpool proper in a distance of about 500 feet there is a mean fall of seven and one-half feet.

No. 3. At the exit of the Whirlpool there is another decline of nearly seven feet in a distance of less than 300 feet.

No. 4. Niagara Glen has a frontage of 4,000 feet measured along the margin of the river, with a difference of level between the north and south ends of twenty feet, but in a direct line a waterway to secure the total head would not measure over 3,500 feet.

No. 5. At the head of Niagara Glen in a distance of 1,000 feet a fall of about fourteen feet is found.

Below the eddy at the foot of Niagara Glen the river is very swift for over two miles: unquestionably the difference in head at one or two points could be made to yield water-powers, but the facilities for development are not nearly so favorable as at the other points indicated, and consideration of their merits may well be deferred for the present.

The conditions under which these several powers can be best developed are not at all uniform. Nos. 1 and 4 are large units and can only be developed at considerable cost, while Nos. 2, 3 and 5 are comparatively small units and will not require so large an outlay to obtain in each case remunerative developments.

In the case of No. 1 a conduit or tunnel of large dimensions could be constructed as a head race, and the development of the water into electric or other form of transmitted power be made in suitable erections placed at "B" on the plan, where a space can be had at the margin of the river sufficient for that purpose by suitable excavations in the talus or sloping bank of the river under the cliff.

Assuming the head race to be a circular wood-lined conduit of twenty feet internal diameter, and with a loss of head of fourteen feet in the entire length of 3,400 feet, a total water power capacity of from 22,000 to 24,000 horse power could be obtained under an available head on the water wheels of thirty feet. The cost of such a conduit (wood-lined) with suitable terminal works and buildings should not be over \$450,000; and the total capital outlay required to equip the works complete with water wheels, generators, etc., etc., and distribute the energy at convenient points on the high bank above would probably not exceed \$60 to \$65 per electrical horse power, and the effective output of power available for consumers, after allowing for loss in machines, etc., etc., would be about 15,000 or 16,000 horse power. This proposition will, I think, compare favorably with any of the large schemes for the development of power projected in or around Niagara Falls.

By using a head race of still larger dimensions a much greater power could be obtained at a less outlay per unit. Thus a conduit of twenty-four feet internal diameter laid to the same grade would afford fully forty per cent. more power, while the cost of terminals of the raceway, buildings, inclines, etc., would be nearly the same in either case.

No. 2 is a comparatively small power, but very compact and conveniently situated in the immediate vicinity of the town, and therefore very suitable for local users. It could be most readily developed by an open cutting in the rock across the point separating the Whirlpool Rapids eddy from the Whirlpool proper, or by a flume sunk in the talus at the water's edge. In either case the cost would approximately be the same. As the head is small the cost per horse power would be somewhat greater. A raceway of thirty feet wide and ten feet deep would give a net capacity of over 2,000 electrical horse power.

No. 3, which is at the outlet from the Whirlpool, could be made to develop power at a comparatively small cost. As the distance to be overcome is very short and the material to be removed to form an open cutting or flumeway is of good quality sandstone, and as much of the stone quarried would be suitable for building the protective works and other constructions needed for the work, a moderate capital outlay per horse power would suffice to construct and equip a power of 1,500 or 2,000 horse power capacity.

No. 4 is in some respects well adapted for generating a water power on a large scale, but it would be much more costly per unit of power developed than any of the others.

The method of development proposed for No. 1 would certainly be the best adapted for this situation; but owing to the difference in the relative fall of the water between the terminals the greatest economic head that could be obtained would be about thirteen feet, and the same description of flume, if applied in this case, would yield less than one-third the water power, while the cost of flume, terminals, etc., etc., would be practically the same, and the cost of water wheels and generators somewhat more.

This scheme has some compensating advantages which make it well worthy of consideration: for instance, the opportunity of choosing a site for buildings and appurtenances, with an abundance of room for the same, advantages in selecting terminal points for the flumeways, etc., and a large quantity of the best building material on the ground. With all these, however, it is the least desirable of the several schemes outlined, as the capital outlay per horse power required for construction and equipment would amount to nearly three times that of No. 1, and the same size of conduit, if laid to the most effective gradient, would not yield over, say, 5,000 electrical horse power.

No 5 would make an admirable and convenient water power, and could be developed by either a tunnel or a flume laid along the shore, as might be found the most desirable on closer scrutiny. The cost of development would be about \$75 per effective horse power, and a twenty feet conduit for a head or tail race would give, say, 5,000 electrical horse power. In this case there would be no difficulty whatever in duplicating the plant at any future time should the requirements of the market for power demand it. The power house could be placed on level ground and the excavations would be in good quality of sandstone.

In projects Nos. 1, 2 and 3 the talus would have to be cleared off and excavations made where the power houses would be erected, and in each instance access secured from the top of the bank by means of inclined planes or vertical lifts, and approaches made by which men and materials could be got to the site of the works, something after the principle adopted in respect to the Niagara Falls Hydraulic Power Company's works on the American side.

As the water level of the Niagara is subject to considerable fluctuations, chiefly by reason of storms on Lake Erie, it would be necessary in each case to make provision for this in designing the machinery and appliances. As, however, the fluctuations are in general very quickly and uniformly distributed over the whole course of the river, the hydraulic head at any of the points referred to does not at such times vary much from the mean, and the change in levels can in some cases be provided for in the arrangement of the draft tubes of turbines, but in other cases where low heads are used special provision will have to be made to avoid detention during periods of extreme high or low water.

The problems of how best to deal with floating ice and frazil, which are inseparable from works of this nature, will, as usual, have to be considered, but as the intake would in each instance be located immediately at the parting of the waters, where the very best possible opportunity exists for solving the problem, without doubt the practical dealing with the question will be made comparatively easy.

In order to effect any one of these several water power developments, certain works would of necessity have to be constructed near the water's edge at either extremity of the raceway, and in each case the natural scenery would be effected to some extent; but this feature cannot be avoided if the development of the water power is to take place. With careful study the works may be made an interesting feature of the landscape—certainly vastly less prominent or objectionable than the building of a low level railway all along the shore.

The adoption of electricity as the most economical and desirable form of power for use in street railways has, within the last ten years, become almost universal, and it is generally believed that within a very short period electricity, as a motive power will largely supersede steam on the railways of the country. Should this prove to be the case a very large market for power would be created in the immediate vicinity of Niagara Falls which is already a great railway centre, and the utilization of the water power of both the falls and the rapids would, doubtless, be required to supply the needs of the railways and manufacturers at the lowest competitive rates.

As the privileges of developing water power at the Horse Shoe Falls has already been granted to a strong company, it seems to be quite reasonable to suppose that the privileges now referred to will be eagerly sought for by capitalists: and that the park revenue will be considerably increased by means of the rentals to be obtained therefrom.

The whole respectfully submitted.

(Sgd.)

JAMES WILSON,
Superintendent.

NIAGARA FALLS, June 20th, 1897.

Since the Commissioners received the foregoing report, a further application has been made on behalf of the Town of Niagara Falls for rights in the water power of the river at the well known Whirlpool Rapids in front of the northern part of the town, and as far as the Whirlpool.

The Commissioners, realizing the vast importance of this subject and the necessity of their being in a position to recommend a definite line of policy whenever the Government might deem the time opportune for dealing with the question, have taken steps to secure the services of hydraulic and electrical engineering experts to be associated with the Park Superintendent in the preparation of detailed plans for the best practical method of using the waters in the rapids of the lower river for power purposes.

The expenditure on the maintenance of the Park property has been, as usual, confined chiefly to the front portion of the Park proper at Niagara Falls, and to the Queenston Heights Park: the funds at the disposal of the Commissioners not permitting of much being done to the extensive territory at Niagara Glen or to the long connecting reaches along the bank of the river.

A considerable improvement has, however, been made to a portion of the Victoria Parkway, in front of the Town of Niagara Falls, in cutting down the sidewalk to the level of the roadway, and in acquiring some additional lands at the Upper Suspension Bridge where the traffic is greatest, and where the accommodation afforded by the original chain allowance was too much restricted. A small additional strip was also added to the roadway at this point by an exchange of lands effected between the Bridge Company and the Commissioners.

A noticeable improvement has also been made to the Victoria Parkway at the crossing of the Grand Trunk Railway Bridge, the substitution of a steel arch in place of the suspension bridge erected by Roebling in 1855, permitting a portion of the space formerly occupied by the steel towers supporting the cables being left more open. This has been put into a neat condition in accordance with the arrangements entered into with the Bridge Company.

For a full resumé of the various works which have been undertaken during the year reference can be had to the report of the Superintendent of the Park, which will be found appended hereto.

FINANCIAL.

The following summary will show the receipts and expenditures for the year:

RECEIPTS.

Rental from the Canadian Niagara Power Company for one year to 1st November, 1897.....	\$25,000 00
Rental from the Niagara Falls Park and River Railway Company to 1st December (15 months).....	12,500 00
Rental from Messrs. Zybach & Co. for refreshment and photo privileges, one year to 31st December, 1897..	8,200 00
Receipts from tolls at Dufferin Islands and at Brock's Monument	1,721 15
Receipts from sundry sales of old materials, etc., etc..	85 44
Imperial Bank overdraft	428 51
Total	<u>\$47,935 10</u>

EXPENDITURES.

Paid Imperial Bank account of overdraft January 1st..	\$3,473 06
Capital Account ;	
Permanent improvements, including cost of materials, etc	\$2,987 00
Wages of mechanics and laborers	2,884 95
Land purchases and surveys	411 18
Miscellaneous, including legal expenses.	548 99
	<u>\$6,862 18</u>
Maintenance Account :	
Salaries and wages, including wages of laborers, teams, etc	\$10,132 45
Cost of materials, etc..	2,652 56
Office expenses	191 45
Commissioners' expenses	235 94
Miscellaneous	150 15
Interest on bank overdrafts.....	111 20
	<u>13,473 75</u>
Coupon interest on debentures, and charges.....	24,126 11
Total	<u>\$47,935 10</u>

All of which is respectfully submitted.

J. W. LANGMUIR,
Chairman.
GEORGE H. WILKES.
J. W. CHARLTON.
JAS. BANFIELD.

REPORT OF THE SUPERINTENDENT.

To the Commissioners for the Queen Victoria Niagara Falls Park :

GENTLEMEN,—I beg to submit my report of the works done in connection with the Park during the year ending the 31st December, 1897.

GENERAL MAINTENANCE.

The usual works incident to the proper maintenance of the grounds, buildings and other structures pertaining to the Park system, were all carried on during the past season with as much care and attention as the means at command for this part of the work would admit of, and it is believed that the results attained met with the hearty approval of the residents of the vicinity and of visitors generally.

As heretofore our efforts were chiefly confined to the Parks proper at Niagara Falls and Queenston Heights, but something was also accomplished at Niagara Glen and on Victoria Parkway in front of the Town of Niagara Falls. Owing to the unfavorable spring, some of the ornamental beds of shrubbery and perennials did not show up as well as anticipated. The stock of flowering plants, however, has been largely augmented during the season, and much better results may be hoped for in the future.

NEW TREES AND SHRUBS.

A large consignment of the choicest ornamental and flowering trees suitable for the locality were procured from reliable nursery men and planted out. These, together with the planting of previous seasons, will in a very few years add materially to the appearance of the property, and in all probability will amply suffice for some portions of it.

All new stock and many varieties of the standard trees and shrubs have been labelled, the proper and common names being printed plainly on cardboard and encased in tight fitting copper and mica frames, and attached to the growing wood by adjustable copper fastenings. Great care has been exercised in securing accurate identification of each species, and it is hoped the labels will prove to be waterproof and enduring.

The instructions given several years ago to secure, as far as was possible, specimens of all the desirable varieties of trees and shrubs which might reasonably be expected to grow in this favored locality, and thus lay the foundation for a comprehensive botanical garden, where the student of arboriculture could compare the various classes of trees and shrubs, has been constantly kept in mind: and already, notwithstanding the paucity of the appropriations made from year to year by the commissioners for planting, and the great extent of ground requiring treatment, a good beginning has been made and a large variety of specimen trees of the choicest kinds, together with many of the best of the flowering shrubs, have been set out.

Arrangements have also been made for a considerable addition chiefly of new and desirable forms of shrubbery to be planted out next season.

CRIBWORK PROTECTION TO THE RIVER BANK.

The protection works around the shore of the river opposite to the Dufferin Islands, where serious erosion had taken place, as referred to in previous reports, and which important work has been in course of construction for the past four

years, was completed early in the season by filling in the gap left from the end of last season's work to the summer house at the southern end of Riverside Ramble. The depth of water to be overcome along this portion of the work was greater than encountered on most of the work previously done, necessitating a greater expenditure of labor and material in its construction.

The completion of this cribwork opened up the way for the extension of Riverside Ramble around the shore of the mainland all the way to Dufferin Gate, a distance of nearly half a mile. This work was thoroughly well done. The cribbing was filled up to the top with large stones, and a nice gravelled walk, averaging six feet in width, was constructed over the whole distance, thereby affording a delightful and permanent and well shaded walk around this pleasant reach of the river.

In addition to the filling of the cribwork, the space behind has also been filled up even with the top of the walk with heavy stone and gravel for most of the distance, thus securing a firm "toe" for the foot of the steep hill adjoining, which will hereafter effectually prevent a repetition of the sliding of the hill side into the river.

The portion of Riverside Ramble south of the foot of Suspension Bridge was found upon examination to be entirely worn out; the old cribwork foundation had become quite useless as a protection to the shore, and a considerable slide occurred at a steep point of the hill side during the early spring. It was, therefore, deemed necessary to renew the work. The depth of water was not as great as was found south of the summer house, and the work was expeditiously accomplished. A solid gravel walk with stout cedar guard railing was also placed along this portion of the work.

The remaining portion of Riverside Ramble should be taken in hand next spring, and the same permanent character given to the cribwork, especially as it is now in need of substantial repair.

During the season it was found that the very swift current at Dufferin Gate had undermined the protection work in front of the gateman's house. The old work was, therefore taken out and a crib resting on very large timbers, thoroughly bolted to the bed rock, was put in. This was also filled with stone and surfaced with gravel and should last for many years.

CONSERVATORY.

The erection of a small conservatory having been authorized, in which to keep the exotic plants we now have on hand as well as many which may be added from time to time, and to afford room for visitors to enjoy a modest display of winter blooming plants, work was begun in the autumn on a structure sixty feet long, twenty feet wide, fourteen feet high at the ridge and six and a half feet at the wall plate. Owing to the smallness of the appropriation, the construction of the permanent walls had to be deferred until next season, and the building made to rest on temporary posts; for the same reason the flower benches and walks were not made permanent, but otherwise the structure is complete, and has proved to be very serviceable. A large hot water furnace has been put in, and the new building, together with the two small forcing and propagating houses erected in 1894, are now all warmed by hot water circulating through four inch pipes.

FLAGSTONE WALK.

The difficulty of maintaining gravel walks in fit condition for use by visitors in the vicinity of the Horseshoe Fall, owing to the excess of moisture in summer and accumulations of ice in winter, has been referred to in previous reports. As

an experiment, Rainbow Ramble which extends from Table Rock to Cedar Island has been provided with a split flagstone pavement of Credit Valley freestone, four feet wide, laid in the centre of the gravel path ; which, while inexpensive, appears to answer the purpose very well. The location of this walk is likely to be changed in a year or two, and therefore only such a class of walk as could be readily taken up and relaid was available.

PERMANENT ROADWAYS REQUIRED.

I have again to urge the early construction of a permanent roadway, with its complement of sidewalks, curbstones, etc., from the restaurant southwards at least as far as Table Rock. Over this portion of the park the traffic is at all times very heavy, and the incessant moisture from the falls keeps the roads and pathways in an unfit condition for either driving or walking over. The only remedy which suggests itself is to construct brick on concrete for the driveway, and a brick or cement walk for pedestrians,

This is certainly an urgently needed work, and one which would add very greatly to the comfort and convenience of many thousands of visitors each year, and it is hoped that means may be found of undertaking the work early in the spring of next year.

SUNDRY WORKS OF IMPROVEMENT.

It was found desirable to enclose the upper pond in the picnic ground with a stone coping similar to that which was last year put around the pond near the monument to Sir Casimir Gzowski. The small fountain pond still requires protection of a similar nature, as during the busy season several children, for want of such protection, fell into the water, and had not prompt assistance been at hand, the consequences might have been more serious.

A consignment of park settees of neat design and finish was procured and distributed through the grounds during the early part of the season, which appears to suit the requirements of visitors, and should be added to during the coming season.

Three new spring water drinking fountains were added this year to the six in number which had been already provided, one near the Mowat Gate, one at the play grounds, and the third on the front walk near to the picnic garden. These have large chisled sandstone basins or reservoirs, and are provided with an abundance of clear spring water conveyed to them by pipes from living springs at the foot of the high bank bounding the park.

VICTORIA PARKWAY.

Under an agreement entered into with the town of Niagara Falls, an important improvement was made to Victoria Parkway, which fronts the town on the river side and forms the principal approach to the park from the railway stations in the town. The sidewalk, which was in several places considerably above the level of the street, was cut down to a uniform grade therewith and some low places in the roadway adjoining the walk filled in. The undergrowth and brush wood along the edge of the river, where it obstructed the views of the river and gorge to any appreciable extent, was kept trimmed, and all decayed timber cut down.

NIAGARA GLEN.

The work of opening up the rare beauties of Niagara Glen so as to make them reasonably accessible to the general public, was continued this year, and the pathway which had been opened down to near the water's edge was extended southwards, its general course following the bank of the river as nearly as was found to be practicable, and now terminates at the water's edge at the limits of the glen. A branch path was also made, leading to some pot-hole stones of gigantic dimensions, which are well worthy of a visit.

Another short branch path was made to a spring gushing out of the face of the cliff which forms the lower or present river channel.

It is hoped much more may be done in the coming year to open up the delightful scenery of this romantic glen.

WHIRLPOOL POINT.

A beginning has been made to remove the nakedness of Whirlpool Point. As the rock formation at this point is practically at the surface of the ground, the first thing to be done was to give the whole a good coating of soil, in which shrubs and trees could find a foothold, and on which grass would grow. This has been partially done, and by next spring some shrubbery may be planted out, and shade trees by the autumn.

This is a charming spot from which to view the mighty whirlpool, and it should be made attractive to visitors.

QUEENSTON HEIGHTS PARK.

Not very much has been attempted this year in the way of improvements at Queenston Heights. The thick undergrowth in the grove was all cut away, and the boundary near the west end of the lands patented was correctly defined and fenced off. Brock's Spring was also made more secure, and the pipes leading the waters to the front of the ground were changed and enlarged to insure a better flow. An additional fountain was also placed half way down the heights, for the accommodation of pedestrians going up from the village. A new pathway has also been commenced, leading up from the village, which will make the ascent less fatiguing.

At the cenotaph which marks the spot where Sir Isaac Brock fell, the lands which had to be purchased in order to improve the surroundings were fenced with a neatly patterned garden railing of wire, well secured to turned cedar posts, all nicely painted, and furnished with two gates. The ground was cleared of stone, ploughed deeply, levelled off, covered with good soil, and sown with lawn grass. A choice selection of ornamental shade trees, many of them of weeping habit, was planted out. A gravel walk was also made around the monument.

Altogether, the appearance of the place has been transformed, and if the township authorities could be induced to put the road which runs alongside the ground in something like good condition, the *tout ensemble* would be more worthy of the events commemorated.

The whole respectfully submitted.

JAMES WILSON,
Superintendent.

NIAGARA FALLS, December 31st, 1897.



THIRTEENTH ANNUAL REPORT

OF THE

COMMISSIONERS

FOR THE

QUEEN VICTORIA NIAGARA FALLS PARK.

PRINTED BY ORDER OF
THE LEGISLATIVE ASSEMBLY OF ONTARIO.



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1899.



THIRTEENTH ANNUAL REPORT

OF THE

COMMISSIONERS

FOR THE

QUEEN VICTORIA NIAGARA FALLS PARK.

*To the Honourable SIR OLIVER MOWAT, K.C.M.G.
Lieutenant-Governor of the Province of Ontario.*

MAY IT PLEASE YOUR HONOR:

The Commissioners for the Queen Victoria Niagara Falls Park beg to submit their thirteenth annual report, accompanied with the usual statement of the receipts and expenditures, being for the year ending 31st December, 1898.

In their last annual report the Commissioners made reference to the agreement which had been entered into with the Niagara Falls Park and River Railway Company and the Canadian Niagara Power Company, whereby these companies were authorized, pending the construction of the electrical power works of the latter company, to utilize, temporarily, the surplus hydraulic power then available in the power house of the railway company, for generating sufficient electrical energy to supply the urgent demand for manufacturing purposes in the neighborhood of Niagara Falls. In furtherance of this agreement the Canadian Niagara Power Company has installed an electrical plant in the railway power house, which, it is stated, will furnish about sixteen hundred electrical horse power in excess of what is needed for operating the Electric Railway; of which amount, about six hundred horse power has already been put into practical use.

The original agreement made in 1892 with the Canadian Niagara Power Company conferred certain rights upon that Company, and also contained stipulations in respect to the time when the works authorized by the agreement were to be in actual operation. The failure of the power company to have the quantity of power specified in the agreement ready at the time stipulated and also their failure to carry on the extensive construction works necessary for the development of the power during the year prior to November 1st, 1898, in the opinion of the Park Commissioners voided the franchise of the Company. It was contended however, by the Company that the agreement gave them until November, 1899, for the completion of their works. In order to settle this question a "Stated Case" was submitted to the High Court of Justice for Ontario, in

the name of the Honourable, The Attorney General. The Case was argued at Osgoode Hall, before Chief Justice, Sir. W. R. Meredith and Justices Rose and McMahon, the questions submitted being as follows :—

(1) "Is the agreement determined and void by reason of the failure of the Company to complete, the Company not having been hindered by unavoidable accident?"

(2) "May the Lieutenant Governor-in-Council or the Park Commissioners by reason of such failure declare the agreement, liberties, licenses, powers and authorities to be forfeited?"

(3) "If the whole agreement is not at an end, or if the same cannot be declared wholly at an end, are the Government and the Commissioners, under the circumstances, relieved from the agreement not to grant or confer upon any other Company or person the right to take or use the waters of the river?"

The decision of the Court on each of these questions was in the negative, thus upholding the contention of the Company, and allowing them until November, 1899, to carry out the works specified in the agreement.

In the month of October last the Canadian Niagara Power Company submitted, for the approval of the Commissioners, a revised set of plans accompanied with specifications, and detailed drawings of the works they propose to carry out in the Park under the agreement of April, 1892.

Owing, however, to the non performance by the Company of any of the extensive works outlined in their general plans submitted in 1894, and to which the approval of the Commissioners was given on the 30th April, 1895, and of the several supplementary detail plans which the Commissioners had approved of from time to time, as desired by the Company subsequently to that date, and more particularly in view of the "Stated Case" which was about to be submitted to the Court of Appeal in order to determine whether the agreement of April, 1892, would remain in force after 1st November, 1898, the Commissioners decided not to take these revised plans into consideration until the judgment of the Court had been given.

Since the decision of the Court which was given on the 20th December last, sustaining the contention of the Company that they have until November 1st, 1899, to complete their works, the Commissioners have been awaiting the convenience of the Company to proceed with the consideration of their plans as finally revised.

In this connection the Commissioners desire to reiterate their disapproval of every artificial defacement of the natural scenery of the Park, whether in the development of works of a commercial character or in strained efforts to improve the scenic effects of the natural conditions surrounding the Falls. The granting of a charter permitting the electric railway to run through the park, and a franchise for generating electrical power for commercial and other purposes, have been regarded by some as inconsistent with this decision of the Commissioners. It should, however, be borne in mind that neither the Dominion nor the Provincial Government contributes any of the funds required to meet the expenditures for park improvements and maintenance, all of which have to be provided by the Commissioners from revenues derived from sources within the Park.

Under such onerous conditions the settled policy of the Commissioners has been to grant such franchises only, within the Park limits, as would contribute directly to the comfort and convenience of visitors; or which would produce a maximum of revenue with only a minimum of defacement of the natural scenery. The railway franchise has been amply justified by the facilities it has afforded visitors of visiting the upper reaches of the Park proper and enjoying, at their leisure and at trifling cost, the charming scenery of the upper rapids and the Dufferin Islands, the grand and picturesque scenery of the river gorge between the Falls and the historic Queenston Heights which constitute the present northerly terminus of the Park system, and in a very marked manner, by the greatly increased number of visitors which the Railway has brought to the Canadian Park since its construction. Many who had at first disapproved of the railway entering the Park, now frankly admit that it confers advantages upon the public which far outweigh any objections that might be made against it.

In the case of the power franchise, while the Commissioners were actuated primarily by the necessity for obtaining a revenue for park purposes, the development of electrical power on the American side, on such a large and extensive scale, produced such growth and prosperity on that side of the river, that the residents on the Canadian side naturally became clamorous for power development on this side, where admittedly the conditions are more favorable for the development of electrical power. The Commissioners, however, fully recognize the responsibility devolving on them of exercising such a careful and judicious supervision over the contemplated works as to ensure their being carried out with the least possible discomfort to visitors and injury to the natural beauty of the surroundings.

Early in the season strong recommendations were made in behalf of the fruit growers of the Niagara District, that additional facilities for shipping fruit were essential to the development and success of their business. Applications for wharfage accommodation at several points on the shore of the Niagara River were submitted and with the approval of the Government two agreements were entered into, one with Messrs. Marchmont and Company and one with Captain James Sheppard, for landing privileges; the first midway between Niagara and Queenston and the latter near the Village of Queenston. The terms of these agreements are inserted in the appendix to this report.

The title of the Commissioners to all the lands below the high bank of the river, in front of the Town of Niagara Falls, having been upheld by the Courts, application was made by the representatives of the Maid of the Mist Steamboat Company for a lease of certain privileges at the Ferry Landing, including wharf and landing rights, marine railway and the storage of boats etc., etc. After due consideration, and having regard to the numerous visitors which the steamers of this Company in their capacity of an international ferry would bring to the Park, an agreement was arrived at, under which the Company was granted the rights applied for, at a rental of three hundred dollars a year. The lease covers a term of three years, and will also be found in the appendix.

The first three days of the month of July were given by the Commissioners to a thorough inspection of the Park system, including the river banks from Lake Ontario to Lake Erie, and of the works which were being carried on at the various points in the Park limits under the directions of the Board. The Commissioners availed themselves of this extended inspection to visit the State Reservation on the New York side of the river, where several important works of improvement are being carried out, and also to drive over a large portion of the Buffalo Park system.

As a result of this general inspection of the Park system under their management and of comparison with the other park systems, the Commissioners resolved to recommend the following works to the favorable consideration of the Government:

1. That portion of the chain reserve lying in front of the Clifton House is in part enroached upon by the buildings and out-buildings of the hotel; and apart from such enroachment the roadway is much too narrow for the large and increasing traffic which passes between the upper arch bridge and the park. As the destruction of the Clifton House by fire affords an opportunity of widening and improving the principal approach to the park, it is recommended that the area indicated on a certain plan be acquired by arbitration or otherwise.

2. The road between the Restaurant and Cedar Island is so continually saturated by the spray from the Horse Shoe Falls that it is impossible to keep the roads and paths in good order; and as they are the most frequented in the Park, owing to their proximity to the Horse Shoe Falls, it is considered that steps should be taken as soon as possible to make this locality accessible at all times to visitors. The construction of a permanent brick or other waterproof road with suitable sidewalks is, therefore, recommended.

3. Attention has been drawn in several of the annual reports of the Commissioners to the exceptionally rugged nature of the talus under the high bank of the river, and more particularly to the extensive enlargement which juts out into the stream half a mile below the Whirlpool, and which is known as Niagara Glen—a region remarkable for its picturesque location, its geological formation and its great botanical wealth. It is

most desirable that this unique portion of the Park system should be at once made as accessible as possible to visitors, and the Commissioners recommend that several permanent pathways be constructed with this object in view.

4. Early in the year the Dominion Government granted a conveyance to the Commissioners of all the ordnance lands at Queenston Heights, which had not been previously disposed of. This included the lands forming the escarpment lying to the West of the Brock's monument grounds and the major portion of the lands lying below the Heights and in front of the Village of Queenston. The total area controlled by the Board at Queenston Heights is now over eighty acres, and embraces the whole of the beautifully wooded heights from the canon of the Niagara westwards for a distance of a mile and a quarter. Instructions have been given to the Superintendent of the Park to begin the clearing up and improving of this newly acquired territory in the Spring.

5. In addition to these specific works there are a number of important works of renewal urgently required in the Park and which have been put off from year to year for want of the means necessary for their execution; for instance, the foot suspension bridge leading from "Riverside Ramble" to the Dufferin Islands has been several times reported by the superintendent to be in an unsafe condition, and it is now imperative that it be entirely renewed, or a more rigid form of structure substituted for it. The long line of cribwork carrying the "Lovers walk" along the waters edge of the inside channel of the Dufferin Islands, has also run its course and requires to be entirely renewed. There are also several minor works which should be taken in hand without further delay.

The Commissioners desire to emphasize the importance of these works and also the impossibility of their being proceeded with out of the ordinary revenues of the Park. This will be apparent when it is stated that out of a possible annual revenue of about \$45,000 only some \$21,000 are available for the maintenance and improvement of the present system, including the Niagara Glen and Queenston Heights extensions, the balance being required to meet the coupon interest on the park debentures already issued to the amount of \$600,000. This indebtedness, however, bears but a small proportion to the great and constantly increasing value of the property as a provincial asset. The Commissioners have out of Bond issue and the revenue derived from the various franchises paid for all the properties taken into the Park system, and have also improved and maintained the property without making any call on the Provincial Treasury. If the works connected with the power franchise are proceeded with so that the revenue from this source may be permanently assured the Commissioners think that it will not be necessary to ask for provincial aid. In order, however, to obtain funds for the permanent improvements suggested, it is recommended that authority be granted for a new issue of debentures to the amount of \$25,000 bearing interest at three and one-half per cent per annum, payable half yearly, and maturing the same date as previous issues. This will provide for the following works:—

(1) For widening the River Road at the Clifton House.....	\$5,000
(2) For construction of a permanent roadway and pathways from the Restaurant to Cedar Island.....	10,000
(3) For the construction of permanent pathways in Niagara Glen.....	2,000
(4) For permanent improvements and additional pathways at Queenstown Heights Park.....	3,000
(5) For sundry permanent works in Niagara Falls Park.....	5,000
	<hr/> \$25,000

The Commissioners would also recommend to the Government the desirability of acquiring a chain in width across those lots fronting on the river between Chippewa and Fort Erie where the patents have conveyed to the water's edge, in order to make continuous the chain reserve along the bank of the river, and also that provision be made for protecting the shore of the river from further erosion, where this can be done economi-

cally. The Commissioners recommend that the highway be widened where it has been unduly encroached upon by the waters of the river.

In their report for the year 1896 the Commissioners made reference to a number of petitions from municipal and other public representative bodies in the County, asking that the grounds around the ruins of old Fort Erie should be taken over from the Dominion Government, and improved and maintained, under the jurisdiction of the Commissioners, as a portion of the Niagara Falls Park system, and a report from the Superintendent of the Park was also submitted at the same time. On the occasion of the visit of the Commissioners in July the subject was again brought to their attention; and the great desirability of doing something to preserve this famous old battle ground from further desecration and of improving and maintaining it as a fitting southerly terminus to the general system was considered.

The Park Superintendent was instructed to prepare plans showing how the lands in question should be dealt with, and also to submit a supplementary report in explanation thereof for the consideration of the Board. This plan and report will be found in the appendix hereto, and the Commissioners respectfully reiterate the opinion expressed in their Eleventh Annual Report, "That it is clearly in the best interests of the park system that effect should be given to the recommendation of the municipal and other public bodies referred to, but that owing to the inadequacy of the funds at the disposal of the Commissioners to meet current engagements, the works proposed in the improvement of this additional territory could not be undertaken without substantial assistance from the Dominion or the Provincial Governments."

The condition of the roadway on the chain reserve along the upper reach of the river, or from Chippewa to Fort Erie, was, on the occasion of the general inspection in July, found to be so contracted and unsafe at some points from the erosion caused by the strong currents in the river, that the Superintendent of the Park was instructed to prepare a special report dealing with the subject, and submitting plans for its improvement. This report will be found in the appendix, and the Commissioners recommend that they be authorized to adopt remedial measures, on the lines suggested by the Superintendent, at the earliest possible moment.

Application was made during the year to the Commissions by the Queenston Heights Bridge Company for a site on which to construct the Canadian end of their projected International Suspension Bridge, by means of which it is proposed to make a trolley connection between the Niagara Falls Park and River Railway and George Railway on the American side of the river, and to afford facilities for vehicular travel as well. Seeing that the proposed bridge would facilitate the interchange of travel on both sides of the river and thus materially increase the number of visitors to the Queenston Heights Park, the Commissioners recommended that the Government grant the application of the Company.

The completion of a new steel arch bridge in place of the Clifton International Suspension structure, near the Clifton House, gave an opportunity for securing a greatly desired improvement to the roadway and to the landscape at this point. The facilities afforded by the new bridge are of the most modern and perfect character and the appointments are greatly in advance of the former bridge.

During the year the Commissioners have had under consideration the question of the development of a portion of the water power of the lower rapids of the Niagara for commercial purposes, and the services of Mr. John Kennedy, M. I. C. E., have been secured as a specialist to advise the Board on the subject. Mr. Kennedy has been engaged during the year in making a study of the peculiar conditions obtaining at several points in the Gorge, where it had been suggested that power plants might be placed, and he has submitted an interim report dealing with the question in some of its various aspects. The Commissioners hope the investigations may have so far matured that they will be placed in possession of all the salient features of the case in good season to deal intelligently and confidently with the subject in the early spring, and regret that they have not been in a position to do so at a much earlier date.

The following summary will show the receipts and expenditures for the year :—

RECEIPTS.

Rental from the Canadian Niagara Power Company, one year to first November, 1898.....	\$25,000 00
Rental from the Niagara Falls Park and River Railway Company, one year to 1st December, 1898	10,000 00
Rental from Messrs. Zymbach & Co. for photo privileges, restaurant, etc	8,200 00
Rental from Maid of Mist Steamboat Company for season of 1898.....	300 00
Receipts from tolls at Dufferin Islands and Brock's Monument.....	1,453 55
Receipts from sales of old material, etc	84 97
Imperial Bank. Interest on balances.....	72 78
Imperial Bank. Overdraft Dec. 31st, 1898.....	729 71
	<hr/>
	<u>\$45,841 01</u>

EXPENDITURES.

Paid Imperial Bank overdraft on January 1st, 1898.....	\$428 51
Capital Account :	
Paid for permanent improvements including cost of material	\$3,320 60
Wages of mechanics and laborers.....	2,654 90
Land purchases and surveys.....	162 15
Miscellaneous, including legal expenses.....	500 81
	<hr/>
	\$6,638 46
Maintenance Account :	
Paid salaries and wages, including wages of laborers, teams, etc	12,428 46
Cost of materials	1,612 95
Office expenses, etc.....	162 33
Commissioners expenses, etc.....	193 40
Miscellaneous.....	118 61
Interest on Bank overdraft.....	136 79
	<hr/>
	\$14,652 54
Coupon interest on debentures and Bank charges thereon..	24,121 50
	<hr/>
	<u>\$45,841 01</u>

J. W. LANGMUIR,
Chairman.
GEORGE H. WILKES,
B. E. CHARLTON,
JAS. BAMPFIELD.

APPENDIX A.

ANNUAL REPORT OF THE PARK SUPERINTENDENT.

To the Commissioners of the Queen Victoria Niagara Falls Park :

GENTLEMEN,—I beg to submit my report of the works which have been undertaken and carried out in connection with the Niagara Falls Park system during the year ended December 31st, 1898.

GENERAL MAINTENANCE.

Owing to the unusually early opening up of spring, the general works required for the proper maintenance of the park system at Niagara Falls and Queenston Heights involved considerably more labor and attention this season than has been the case for some years past.

The work of reclaiming and improving unfinished portions of the Park system, which is being steadily carried on year by year, necessitates a correspondingly increasing amount of labor, in order that these newly reclaimed and developed spaces may be maintained in the same good order and condition as the older finished portions of the Park ; so that year by year the outlay required for maintenance must be correspondingly greater in order to provide for the increased area under development.

As it was found impracticable to make a larger appropriation for these necessary works this year, the best possible attention was given to keeping the walks, lawns and shrubberies in nice order throughout the season, and this has been accomplished in a manner to meet with the cordial approval of visitors generally.

DRIVEWAYS.

The work of keeping up the driveways was well attended to during the early part of the season, but owing to want of funds the claims of this important work had to be neglected for the balance of the season, and only the most needy portions received repairs in the Autumn.

A general renewal of the main road from Mowat Gate to Cedar Island and light repairs of the remainder are proposed early in the spring, when the travel is light and would not be so much interfered with as in mid-summer.

For the front reach of the driveway, the present surface should be removed and a heavy topping of macadam thoroughly rolled to a hard and even surface by a steam roller. For the middle reach where the copious showers of spray from the Falls render the making or keeping of a proper road surface out of the question with the material at hand, permanent and waterproof drive and footways are urgently needed. This matter has been referred to from time to time in previous reports, but again I desire to emphasise the need of this work.

Doubtless the outlay required for this purpose would in the first instance be comparatively large ; but until this work is undertaken the comfort and convenience of all the visitors to the Park, who either drive or walk, and who without exception desire to contemplate the sublime spectacle afforded by a near view from Table Rock, must be contingent upon the vagaries of the wind and absence of spray, not only at the moment but for some time previously.

GRADING AND SURFACING.

As a considerable portion of the front section of the Park has but little soil overlying the rock formation, it has been found quite impracticable to maintain the sod in anything like a presentable condition in periods of drouth, and planting in such places was of course out of the question. This condition of things being most undesirable, especially near the chief entrance to the park, it was decided to apply a heavy coat of good soil over the shallow places, and this spring the area extending from the Superintendent's office to Inspiration Point was levelled up with good soil taken from the foot of the slope near the Murray Gate, rolled to an even surface and seeded down with good lawn grass. The balance of the ground east of the driveway and down to the Mowat Gate, it is proposed to dress early in the spring.

TREES AND SHRUBS.

Some very choice collections of shrubs, imported through a local nursery man, from reliable firms in France, were obtained and planted out in the spring. Some of these are complete collections of their various kinds as far as is known, and embrace lilacs of which we have now no fewer than 62 distinct varieties, weigelas, duetzas, hibiscuses, forsythias, coloneasters, spireas, ceanthuses, syringas, berberises and Tartarian honeysuckles. In addition to these complete collections, which have been set out in prominent places throughout the Park, especial attention being given to placing the more tender varieties in the most sheltered localities, a large variety of the best native growing flowering shrubs suitable to our conditions of soil and climate, which could be had in the country, were planted out forming a substantial addition to our stock of shrubs, and completing all the planting which it is intended should be done in some portions of the Park.

The passing of an act by the Government of Canada prohibiting the importation of all nursery stock from the United States, on account of the danger apprehended from the San Jose Scale, deprived us of a substantial addition to our stock of ornamental trees vines, etc., which had been ordered. As the embargo prevented the delivery of these ornamentals a collection of evergreens and hardy native trees was obtained instead, and set out so as to form plantations where desired, and intended chiefly for future effects.

CONSERVATORY.

The foundation and walls of the small conservatory which was begun in 1897, were completed this year, and a substantial furnace room, pumphouse and potting room erected. In addition a fernery and propagating house was added; and benches, hot water heating etc. supplied, which make the whole establishment very compact and efficient, although necessarily of quite small proportions.

The stock of plants which we have been able to obtain, is certainly not extensive; but through the good judgment of the chief gardener it is already very choice, and in some lines most complete; and the display affords a high degree of enjoyment to very many of our visitors.

CRIB-WORK PROTECTION.

The balance of the cribbing required to complete the protection of the long reach of main shore opposite the Dufferin Islands, was put in during the summer, and all danger from the action of the river upon the base of the high bank at this point is overcome. The filling of the cribs was, however, not completed for several reasons, and will require to be done in the spring.

The long walk which has been constructed upon the finished reach of this protection work, and known as Riverside Ramble, has been much appreciated by visitors during the summer. The beautiful weeping willows, which are stated on good authority to have been originally brought from St. Helena and which at some points embower the walk, throwing their handsome foliage high overhead while the branches droop with lithe and graceful form down to the water flowing swiftly below, especially attract attention.

ADDITIONAL SHELTER ACCOMMODATION.

For several seasons past the special facilities afforded to picnic parties in the Park have attracted large excursions from the cities and towns within easy railway distance of the Falls, and it became necessary to provide increased shelter accommodation for these in the district set apart as picnic grounds, in the event of rain storms or spray. After consideration the erection of a light pavilion of iron pipe framework, with ornamental canvas covering which could be removed during winter, was determined on. This was put up on the north side of the Murray street entrance and at the base of the hill, hard by the ball grounds, and formed a most attractive feature to many of the young people who utilize the space for dancing and other enjoyments.

SKATING POND.

During the winter months the ice on the large pond at the gravel pit, which is supplied with water piped from the river, was kept cleaned off and in condition for skating; and whenever the weather was favorable large numbers of young people from the vicinity of the Park and from the other side of the river as well, enjoyed this healthful recreation in the open air, on some occasions several hundreds being on the ice at the same time. At certain times hockey is allowed, and several interesting scratch matches were played by the citizens during the season. Skating was also indulged in on two of the other ponds in the Park—namely near Cedar Island and on the small ponds near the Mowat Gate.

VICTORIA PARKWAY.

Under the agreement made with the Commissioners in 1895, the Town of Niagara Falls re-surfaced nearly one and one-quarter miles of the Victoria Parkway, putting on a very heavy coating of macadam and thoroughly rolling and blinding the surface to a good hard finish. This work has put this important avenue to the Park in excellent condition, and its maintainance should be made much easier for a long time to come.

The iron fence along the edge of the cliff was thoroughly over hauled and repaired during the season, and some new supports put in.

WHIRLPOOL POINT.

Some additional filling in has been done at the Whirlpool Point, the material being borrowed from the bank near by. As this filling requires air and frost to mellow and sweeten it before it is fit for seeding and planting, nothing was attempted in this way this season, but the surface was plowed up and prepared for the spring when it is intended to set out a varied collection of trees and shrubs. A nicely gravelled pathway was made from the electric railway station to the point.

NIAGARA GLEN.

The pathways opening up the beauties of Niagara Glen to visitors were extended, and now reach along the whole front of the Glen from the Fisherman's Eddy to Gravelly Bay. This romantic portion of the Park system was visited by many during the summer, and its charming scenery much admired.

QUEENSTON HEIGHTS.

At Queenston Heights Park the walks leading down to the village were much improved. The stairways on either side of the electric railway crossing were entirely renewed, and made much more easy of ascent, and a new gravelled walk was constructed from the foot of the steps to the bluff overlooking King Street, where a Prospect platform

with suitable stairways was put in. A garden tile was also laid along the lower terrace of the heights to effectually drain off the springs which made this part of the grounds practically impassable in the winter or spring.

A great deal of cleaning up and thinning out has also been done along the face of the heights, and scope given to the development of young growth arbor vitas and for the introduction of deciduous trees, in order to secure a brightness to the landscape, which is not possible where the juniper tree monopolizes the ground.

The cutting away of the thick undergrowth in the grove, referred to in last report, has made this part of the grounds entirely accessible, and a grateful shelter is afforded to the visitor while enjoying the magnificent panorama obtainable from the heights.

The cleaning up of the grounds about the Oenotaph, marking the spot where General Brock fell, to which reference was made in last report, and the planting of suitable weeping and ornamental shade trees, have given very general satisfaction, more especially as the grounds were kept in an attractive condition during the season.

Late in the autumn work was begun upon the re-construction of the old Queenston and Lewiston Suspension Bridge which was first built in 1850, and destroyed a few years later. The opening up of this bridge with the roadway approaches, required for access to it by the traveling public, will necessitate the putting of the adjacent hillside, which has been long neglected, into better shape than at present. It is expected that the bridge will be open for traffic early in the season of 1899.

The whole respectfully submitted.

JAMES WILSON,
Superintendent.

NIAGARA FALLS, January 20th, 1899.

APPENDIX B.

LEASE OF WHARF PRIVILEGES TO MARCHMENT AND HASKINGS.

This Agreement made this eighteenth day of July, in the year of our Lord one thousand eight hundred and ninety-eight,

Between

The Commissioners for the Queen Victoria Niagara Falls Park ; Acting herein on their own behalf as well as on behalf and with the approval of the Government of the Province of Ontario, and hereinafter called the Commissioners of the First Part.

And

Samuel W. Marchment and George Haskings of the City of Toronto, Shippers, hereinafter called the Contractors of the Second Part.

The Contractors, in the covenants, provisoes and stipulations by them hereinafter provided Covenant jointly^s for themselves, their heirs, executors and administrators and each of them doth hereby severally for himself, his heirs, executors and administrators covenant, promise and agree to and with the Commissioners in respect of the several matters in and by these presents set forth.

Whereas the Niagara Township Farmers and Fruit Growers Association have petitioned that in order to provide for cheaper and better transportation of the fruit and produce of their district it is necessary to have further wharf accommodation along the Niagara River and did pray that permission to build a wharf in front of parts of Lot Number Sixteen and Lot Number Seventeen of the Township of Niagara, on the said river be granted to the Contractors above described, and Whereas the Commissioners are prepared to grant to the Contractors, in furtherance of the above objects, permission to build a wharf (and an approach or access thereto) and to hold and occupy as hereinafter provided.

And whereas the Contractors, have acquired from the owners of certain parts of said lot number sixteen in the said Township of Niagara, rights to construct a road allowance from the Niagara River Road down the hill to the Niagara River for the purpose of conveying merchandise to and from the wharf, by virtue of Two certain Instruments Numbers 3632 and 3633 registered in the Registry Office for the County of Lincoln, in Book A., for the Township of Niagara, on the seventeenth day of June, one thousand eight hundred and ninety-eight.

Now therefore this agreement witnesseth that in consideration of the rents, covenants and conditions hereinafter contained and set forth, the Commissioners license and permit Samuel W. Marchment and George Haskings, hereinbefore and hereinafter described as the Contractors, their executors, administrators and assigns, to enter upon, possess and occupy so much of the lands hereinafter mentioned and described as necessary to use and occupy for the purpose of building a wharf and approach thereto, namely :—

(1) That part of the lands lying along the bank of the Niagara River, in the Township of Niagara, and County of Lincoln, in front of lot number sixteen and lot number seventeen of the said Township of Niagara, comprised in the new roadway constructed in April 1898, to connect the waters edge of the Niagara River, at a point opposite the division line between said lots sixteen and seventeen with the highway between Niagara and Queenston, at a point about 475 feet southerly from where the said division line intersects the said highway.

(2) That part of the bed of the Niagara River or the accretion to the Bank of the River formed in what may have been foreshore or bed of the Niagara River, opposite to lots sixteen and seventeen covered or to be covered by a wharf about to be built, from the foot of the new roadway described in Parcel (1) to navigable waters. The said wharf to have at its eastern extremity a cross section of about 130 feet in length by 22 feet in width and the approach thereto.

To have and to hold the same to the said Samuel W. Marchmont and George Haskings, their executors administrators and assigns for the period of ten years from the date hereof and thereafter during the pleasure of the Commissioners. That such tenure is upon the express condition that the works and wharf to be built upon the lands and premises hereby licensed to be used and occupied by the Contractors shall be for the purposes of a fruit business or other commercial business of like character or incidental to the needs of the ordinary fruit grower or farmer of the neighborhood.

And it is further understood and agreed that the adaptation or enlargement of the works or wharf aforesaid for the use or intended use of any larger commercial business of wharfinger or forwarder except as aforesaid or for the location of a Railway or Electric Railway or for any such purposes shall by the very act or acts of adaptation or enlargement, be a forfeiture of the Tenure under these presents.

And on the Commissioners assuming possession of the lands and premises hereby licensed to be used and occupied, or the appurtenances thereto, in consequence of such forfeiture by such act of adaptation or enlargement, neither the said Samuel W. Marchmont and George Haskings, their executors, administrators or assigns nor any person or persons claiming through or under them, shall be entitled to ask, demand or receive any compensation or damages in the premises, whatsoever, from the Commissioners, or from the Government of Ontario, or any Minister, Officer, Servant or Agent thereof. Such forfeiture shall not be considered as occurring until after one month's notice in writing of their action complained of shall have been served upon the Contractors by the Commissioners, and the failure of the Contractors to remedy the grievance within that time.

And these Presents are further subject to the reservation that during the period of use and occupation hereby licensed, either during the existence of the period of ten years limitation, or at any time hereafter while the Contractors shall be in the enjoyment of the occupation under the said license, the Commissioners may at any time build or authorise to be built an esplanade road or carriage way or Electric, Steam or other Railway or means of communication across the Roadway or approach to the wharf by the Contractors building or intending to build, without remuneration to the Contractors, such crossing not to interfere with the utility of the Roadway or approach to the wharf for the purposes of the Contractors business to be used in accordance with these presents.

Provided always and these presents are upon and subject to the several stipulations, provisions and conditions hereinafter expressed and contained, that is to say :—

That the Contractors shall pay or cause to be paid to the Commissioners, or to such person as may be authorised to receive the same, the yearly rental of One dollar of lawful money of Canada for the same for each and every year that the said lands shall be so occupied as aforesaid, the first of such payments to become due and be made on the First day of June in the year one thousand eight hundred and ninety-nine.

That the said Contractors shall not at any time or times during the continuance of this license assign or sublet the said lands and premises or any part thereof or their use and occupation without the consent of the Commissioners evidenced in writing and executed under their Corporate Seal, being first had and obtained nor do or suffer to be done or committed by others any manner of waste, spoil or destruction to or upon the said lands and premises nor carry on or allow to be carried on any noisome or offensive trade or business whatsoever.

Provided nevertheless that upon the expiration or other determination for any cause of the said period of ten years the Commissioners shall resume possession of the said lands or any part thereof so licensed to be used and occupied as aforesaid, the Contractors

shall have the right within the period of three months of the expiration or determination of the said period of ten years or from the time of the Commissioners having given notice to the Contractors their executors, administrators or assigns of such resumption of possession after such termination or expiration as aforesaid to remove from the said lands and premises if the navigation be then open or within six months if the navigation be not open, or to any period not less than the foregoing, as the Commissioners may determine, any property or wharf or works which they may have placed thereon or adjacent or appurtenant thereto; but the right hereby conferred to the Contractors to remove such property, wharf or works as aforesaid shall not in any way affect the possession of the Commissioners after the termination or expiration of the said period of ten years or other termination of the said license by the Commissioners or restrict their right to enter upon and use the said lands and premises for any purpose, but doing no unnecessary damage to the property, wharf or works, during the period hereby allowed to the Contractors to remove the same.

And it is hereby further covenanted by the Contractors as aforesaid with the Commissioners, that the Contractors will during the period of their occupation pay all taxes, rates and assessments whatsoever, whether Municipal, Parliamentary or otherwise now charged or hereafter to be charged upon the premises hereby licensed to be used and occupied by the Contractors, or upon the works or wharf to be thereon erected or adjacent thereto.

And it is further expressly provided that if during the enjoyment by the Contractors of the license or occupation hereby secured or permitted to them by these presents, that the Owners of Lot Sixteen shall put an end to the user by the Contractors of the Roadway, described in the hereinbefore recited Instruments as registered, the Commissioners shall not be required to provide any other Roadway for access by the Contractors to the said wharf or premises by the Commissioners licensed to the Contractors by these presents.

The Covenants and Agreements by any party hereto, in these presents contained are not to be construed as expressing or implying any Covenants for title or quiet possession.

In witness whereof the parties hereto have hereunto set their hands and seals.

Signed, sealed and delivered in the presence of

As to execution by Samuel W. Marchment, and Geo. Haskings,

V. T. WEST. *

}	(Sgd.) SAMUEL W. MARCHMENT,	(Seal.)
	(Sgd.) GEO. HASKINGS,	(Seal.)
	J. W. LANGMUIR,	
	(Seal.)	Chairman.

APPENDIX C.

LEASE OF WHARF PRIVILEGES TO CAPTAIN JAS. SHEPPARD.

This agreement made this twenty-second day of July, in the year of Our Lord one thousand eight hundred and ninety-eight,

Between

The Commissioners for the Queen Victoria Niagara Falls Park, acting herein on their own behalf as well as on behalf and with the approval of the Government of the Province of Ontario, and hereinafter called "the Commissioners," of the First Part.

And

James Sheppard, of the Township of Niagara, fruit grower, hereinafter called the Contractor of the second part.

The Contractor in the Covenants, provisoes and stipulations by him hereinafter provided, covenants for himself, his heirs, executors and administrators to and with the Commissioners, in respect of the several matters in and by these presents set forth.

Whereas the Niagara Township Farmers and Fruit Growers find that in order to provide for cheaper and better transportation of the fruit and produce of their district it is necessary to have further wharf accommodation, and as the above mentioned contractor has applied for permission to repair the old wharf, known as the "Deep Hollow" wharf, in front of lot six in the Township of Niagara, and whereas the Commissioners are prepared to grant the Contractor in furtherance of the above mentioned object permission to repair the old wharf above mentioned and to hold and occupy the same as hereinafter provided.

Now therefore this agreement witnesseth that in consideration of the rents, covenants and conditions hereinafter contained and set forth, the Commissioners license and permit James Sheppard, hereinbefore and hereinafter described as the Contractor, his executors, administrators and assigns to enter upon, possess and occupy as much of the lands hereinafter mentioned and described as necessary to use and occupy for the purpose of building a wharf and approach thereto, namely:—

That part of the lands lying along the bank of the Niagara River, in the Township of Niagara, and County of Lincoln, in front of lot six of the said Township of Niagara, comprising the remains of the old wharf and approaches thereto, and commencing at the north side of the creek running down the deep hollow ravine and extending two hundred and fifty feet along the shores of the Niagara River, and extending outward into the said river to navigable water.

To have and to hold the same to the said James Sheppard, his executors, administrators and assigns for the period of ten years from the date thereof, and thereafter during the pleasure of the Commissioners, that such tenure be upon the express condition that the works and wharf to be built upon the lands and premises thereby licensed to be used and occupied by the Contractor shall be for the purpose of a fruit business or other commercial business of like character or incidental to the needs of the ordinary fruit grower and farmer of the neighborhood.

And it is further understood and agreed that the adaptation or enlargement of the works or wharf aforesaid for the use or intended use of any larger commercial business of wharfinger or forwarder except as aforesaid, or for the location of a railway or electric

railway, or for any such purpose shall by the very act or acts of adaptation or enlargement be a forfeiture of the terms under these presents

And on the Commissioners assuming possession of the lands and premises hereby licensed to be used and occupied, or the appurtenances thereto, in consequence of such forfeiture by such act or acts of adaptation or enlargement, neither James Sheppard, his executors, administrators or assigns, nor any person or persons claiming through or under him shall be entitled to ask, demand or receive, any compensation or damages in the premises, whatsoever, from the Commissioners, or from the Government of Ontario, or any minister, officer, servant, or agent thereof. Such forfeiture shall not be considered as occurring until after one month's notice in writing of his or their action complained of shall have been served upon the Contractor by the Commissioners, and the failure of the Contractor to remedy the grievance within that time.

And these presents are further subject to the reservation that during the period of use and occupation hereby licensed, either during the existence of the period of ten years limitation, or at any other time hereafter while the Contractor shall be in the enjoyment of occupation under the said license, the Commissioners may at any time build or authorize to be built an esplanade road or carriage way, or electric, steam or other railway, or means of communication across the roadway or approach to the wharf by the Contractor building or intended to be built without remuneration to the Contractor, such crossing not to interfere with the utility of the roadway or approach to the wharf for the purposes of the Contractor's business to be used in accordance with these presents.

Provided always and these presents are upon and subject to the several stipulations, provisos, and conditions hereinafter expressed and contained, that is to say :

That the Contractor shall pay or cause to be paid to the Commissioners, or to such person as may be authorized to receive the same the yearly rental of one dollar of lawful money of Canada for the same for each and every year that the said lands shall be occupied as aforesaid, the first of such payments to become due and to be made on the first day of August in the year one thousand eight hundred and ninety-nine.

That the said Contractor shall not at any time or times during the continuance of this license assign or sublet the said lands and premises or any part thereof, or their use and occupation without the consent of the Commissioners evidenced in writing and executed under their corporate seal being first had and obtained nor do or suffer to be done or committed by others any manner of waste, spoil or destruction to or upon the said lands and premises, nor carry on or allow to be carried on any noisome or offensive trade or business, whatsoever, such business whether noisome or offensive shall be determined to be so by the Commissioners only.

Provided nevertheless that upon the expiration or other determination for any cause of the said period of ten years, or at any time after the expiration of the said period of ten years, the Commissioners shall resume possession of the said lands or any part thereof so licensed to be used and occupied as aforesaid, the Contractor shall have the right within the period of three months of the expiration or determination of the said period of ten years, or from the time of the said Commissioners having given notice to the Contractor, his executors, administrators or assigns of such resumption of possession after such determination or expiration as aforesaid, to remove from the said lands and premises if the navigation be then open, or within six months if the navigation be not open, or to any period not less than the foregoing as the Commissioners may determine, any property or wharf or works which they may have placed thereon or adjacent or appurtenant thereto ; but the right hereby conferred to the Contractor to remove such property, wharf or works as aforesaid shall not in any way affect the possession of the Commissioners after the termination or expiration of the said period of ten years, or other termination of the said license by the Commissioners ; or restrict their right to enter upon and use the said lands and premises for any purposes, but doing no unnecessary damage to the property, wharf or works during the period hereby allowed the Contractor to remove the same.

And it is hereby further covenanted by the Contractor as aforesaid with the Commissioners, that the Contractor will during the period of occupation pay all taxes, rates

and assessments whatsoever, whether municipal, parliamentary or otherwise now charged or hereafter to be charged upon the premises hereby licensed to be used and occupied by the Contractor, or upon the works and wharf to be thereon erected or adjacent thereto.

And it is hereby expressly provided that if during the enjoyment by the Contractor of the license or occupation hereby secured or permitted to him by these presents, the Contractor shall in any way be deprived of the uses or access now in existence from the Queenston and Niagara road, the Commissioners shall not be required to provide any other roadway for access by the Contractor to the said wharf or premises.

The covenants and agreements by any party hereto, in these presents contained, are not to be construed as expressing or implying any covenants for title or quiet possession.

In witness whereof the parties hereto have hereunto set their hands and seals.

Signed and sealed and delivered
in presence of
JAMES WILSON.

Sgd. JAMES SHEPPARD. (Seal)
Sgd. J. W. LANGMUIR, (Seal)
Chairman.

APPENDIX D.

LEASE OF WHARF PRIVILEGES, ETC., TO MAID OF THE MIST STEAM-BOAT COMPANY.

This indenture made the eighteenth day of July, in the year of Our Lord one thousand eight hundred and ninety-eight, in pursuance of the Act respecting short forms of Leases !

Between

The Commissioners of the Queen Victoria Niagara Falls Park, hereinafter called "The Commissioners," The Lessors of the First Part,

And

The Maid of the Mist Steamboat Company, a corporation duly incorporated under the Laws of the State of New York, the Certificate of Incorporation whereof is filed and recorded in the office of the Secretary of State at the City of Albany, on the 20th day of February, 1892, hereinafter called "The Company." The Lessees of the Second Part.

Witnesseth that in consideration of the yearly rents, covenants and conditions hereinafter reserved and contained on the part of the said Company, their successors and assigns, to be paid, observed and performed they the said Commissioners have demised and leased and by these presents do demise and lease unto the said Company, their successors and assigns all those parcels of land within the Queen Victoria Niagara Falls Park and in the Town of Niagara Falls, and Province of Ontario, whereon are built and erected and form part of the Freehold, being the wharves, marine railways and buildings, marked A, B, C, D, E, F, G and H, on the plan hereto annexed, and including the winter storage of vessels, together with the right of ingress and egress to and from the lands and property hereby demised.

Together with all the rights, members and appurtenances whatsoever to the said lands and premises belonging or appertaining ; to have and to hold the said hereby demised premises, for and during the term of three years, to be computed from the first day of January, one thousand eight hundred and ninety-eight, and from thenceforth next ensuing and fully to be complete and ended.

Yielding and paying therefor yearly and every year during the term hereby granted, unto the said Commissioners their successors or assigns, the sum of Three hundred dollars of lawful money of Canada, on the first day of June in each and every year during the continuance of said term : The first payment to be made on the first day of June A.D. 1898, and the last payment on the thirty-first day of December nineteen hundred and one.

The said Company hereby covenant and agree with the said Commissioners that in consideration of the premises and of the leasing and letting by the said Commissioners to the said Company of the lands above named for the term hereby created (and it is upon that express understanding that these presents are entered into) that, notwithstanding anything contained in section thirty of chapter one hundred and seventy of the Revised Statutes of Ontario, 1897, or in any other section of said Act, that none of the goods or chattels of the said Company at any time during the continuance of the term hereby created on said demised premises, shall be exempt from levy by distress for rent in arrears by, said Company as provided for by said section of the said Act above named, and upon any claim being made by the said Commissioners this covenant and agreement may be pleaded as an estoppel against said Company in any action brought to test the right to the levying upon any such goods as are named as exempted in said section. Said

company waiving as they hereby do, all and every benefit that could or might have accrued to them under and by virtue of the said section of the said Act, but for the above covenant.

And the said Company for themselves, their successors and assigns, hereby covenant with the said Commissioners their successors and assigns, to pay rent, and to pay taxes and to repair (reasonable wear and tear and damage by fire and lightning and tempest only excepted); And that the said Commissioners may enter and view state of repair. And that the said company will repair according to notice (except as aforesaid); and will not assign or sublet without leave; And will not carry on any business but that incidental to Ferry Landing and Excursion business, and not any restaurant, curiosity or photograph or any other business that shall be deemed by the Commissioners to be an annoyance or nuisance on said premises, or by which the insurance on said premises will be increased: And that they will leave the premises in good repair.

And also that if the term hereby granted shall be at any time seized in execution or in attachment, by any Creditor of the said Company, or if the said Company shall make any assignment for the benefit of Creditors, or becoming bankrupt or insolvent debtors, the then current year's rent shall immediately become due and payable and the said term shall immediately become forfeited and void.

Proviso for re-entry by the said Commissioners on non-payment of rent, or on non-performance of Covenants, or seizure or forfeiture of the said term for any of the causes aforesaid.

The said Commissioners Covenant with the said Company for quiet enjoyment.

The said Company hereby covenants to keep in a good state of repair continuously, the roadway leading down from the highway at the point of crossing at the Niagara Falls Park and River Railway tracks, to the landing, and maintain the same in good serviceable condition and order during the continuance of this lease, subject to the inspection and in accordance with the directions of the Commissioners.

The said Company hereby covenants to remove within ten days the coal sheds and chicken coops now on the premises demised and situated opposite to the dwelling house lettered (H) and erect a verandah on the West side of said dwelling house with lattice work.

The said Company hereby covenants to widen the roadway at this point opposite and near the spot marked by letter (H) where designated by the said Commissioners.

The said Company covenants to tightly and closely face up the old wharf marked (A) on the plan with close planking.

The said Company covenants to neatly lattice the base of the dining and store rooms lettered respectively (E and F) on said plan, and to plant vines to screen these and the buildings lettered (E, F, G, and H) on said plan with foliage.

The said Company also covenants to keep the premises demised in a neat and tidy condition during the continuance of the term demised.

In witness whereof the parties above named have affixed their respective Corporate Seals, on the day and year first above mentioned.

Witness,
P. P. PFOHL.

(Sgd.) HANS NIELSON,
President.
FRANK LE BLOND,
Secretary.
J. W. LANGMUIR,
Chairman.
Seal of Com'srs.

APPENDIX E

REPORT ON THE CHAIN RESERVE IN FRONT OF THE TOWNSHIPS OF WILLOUGHBY AND BERTIE.

J. W. LANGMUIR, Esq.,
Chairman.

DEAR SIR:—In accordance with the instructions of the Board I have to make the following report upon the present status of the lands owned by the Commissioners along the West bank of the Niagara River, extending southwards from the Village of Chippawa to the Village of Fort Erie.

On the 28th July 1893, I submitted a general report on the chain reserve from Lake Erie to Lake Ontario, and covering all the frontage then vested in the Commissioners. That report of course included the part of the reserve now under consideration, and described the condition of the property as then existing and the whole was embodied in the annual report of the Commissioners for the year 1895. It may, however, not be amiss to go over the ground again, in order to emphasise the several features to which attention is especially desired and to deal with the subject more in detail.

The title to all the lands now under consideration were granted to the Commissioners by patent from the Crown, dated 26th October, 1891. They are described "as all the strips of land which lie along the bank of the Niagara River extending from the Garrison Road in the Village of Fort Erie to and including lot number 22 in the second concession of Willoughby, lying between those portions of lots heretofore granted by Letters Patent from the Crown and the Niagara River."

Out of a total of sixty patents granted for the farm lots fronting on the River in the two townships, forty-nine contained a specific reserve of a strip one chain in width along the water's edge and eleven did not; in other words out of a total length of nearly sixteen miles which the patent to the Commissioners embraced, the frontage is conveyed for a distance of about $13\frac{3}{4}$ miles and the balance of $2\frac{5}{8}$ miles was not conveyed—nearly all this balance being in the Township of Willoughby.

The accompanying map shows in green color the lands which have been vested by patent in the Commissioners. Should it be desired to complete the ownership to the frontage, the acquiring of the strips of land tinted in pink on the map would be necessary.

A highway or travelled road extends along the shore the whole of the way from Chippawa to Fort Erie, and is the chief means of travel from one point to another; but, unfortunately, the erosive action of the waters of the river has cut deeply into the clay bank in many places, and it is even claimed that at several places the erosion has eaten away not only the whole of the chain in width originally reserved, but has actually encroached on the adjoining lands, necessitating the moving back of the fence from time to time, in order to provide room for the highway or travelled road. Be this as it may the present condition of the road is in some places exceedingly narrow and positively dangerous to traffic, and the erosive action of the river under the influence of storms or passing steamers is too obviously the cause to permit of any doubt as to its agency in the premises.

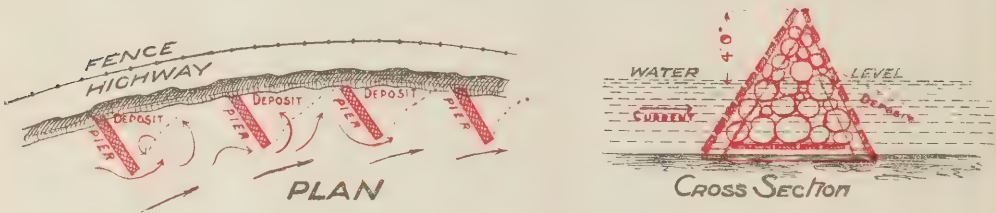
The adjoining proprietors, alarmed at the destruction continually threatening their property, have in numerous instances taken active measures to lessen the inroads of the water. Chief among the means adopted has been the planting of willow trees whose roots, if they attain to maturity, form a good barrier against wave action; while others have built rough stone rip-rap along the bank at the general level of the water. Others again have gone to very considerable expense and used both stone and willow protection, and in all cases with a certain degree of success. Owing, however, to the comparatively limited nature of the protective works anywhere attempted, and to the varying level of the water, which sometimes rises several feet and attacks the clay bank above the rip-rap,

none of these relief measures are wholly effective ; and the destructive work is still going on in a greater or lesser degree—a fact which is very apparent from the discoloration of the river after every storm.

There would seem to be no possible question as to the desirability of taking early measures to cope with the destruction which is going on, and presumably the chief difficulties in the way are of a financial nature.

Upon a careful examination of the problem, I am of the opinion that any scheme for saving the shore of the river from further damage, which would be at once effective and permanent, cannot be devised or put in practice without going to considerable expense ; and I have to recommend that a test be made of a tentative plan, which while the least expensive that I can suggest, would be likely to afford all the protection that is needed, and at the same time have a large degree of permanency.

What is proposed is a series of timber breakwaters or light piers, triangular in cross section, made wholly of planking well spiked together, and loaded down with stone. These breakwaters to be placed at intervals of say 35 to 40 yards, and to be inclined at such an angle with the shore as will best tend to break the action of the waves and divert the current, so as to cause a permanent deposit of the sand and gravel, which is constantly being carried along by the current, on the down stream side of each of those obstructions



These breakwaters should stand at least four feet above the summer level of the water, and reach far enough out into the stream to secure against the scouring of the bottom to a depth of four or five feet of water. The construction of the system of protection proposed will be sufficiently elastic for the varying conditions to be met with in the contour of the bottom, while the material will be easily handled and the labor of the least expensive kind. All the timber and stone required can be brought to the work by water carriage. To afford protection to the most needy places, probably not less than 5,000 yards of shore line should have early attention ; and ultimately it will doubtless be found necessary to materially increase this length. For the first year, however, and until the efficacy of the system recommended is fully established, the construction of ten or a dozen of these breakwaters at several of the most needy points—thus affording protection to reaches of say 400 or 500 lineal yards of the shore—would be ample, and the outlay involved would probably not exceed \$1,500 for each reach protected.

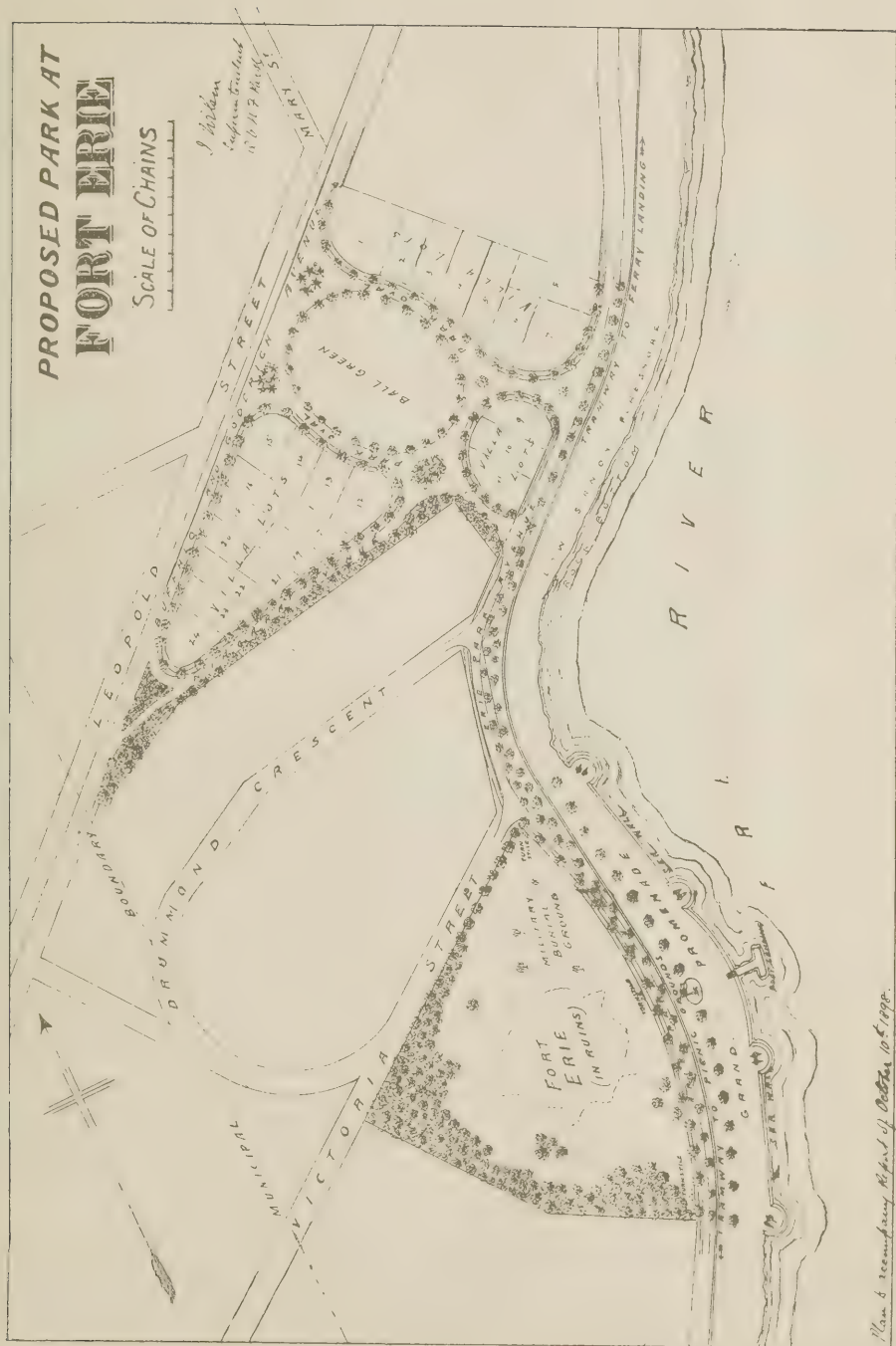
In addition to the work of protecting the shore it will be necessary to acquire additional lands to widen the existing highway in order to make a suitable boulevard between the Park at Niagara Falls and the reserve lands around the old fortifications at Fort Erie and it certainly would be most desirable at the same time to secure a width sufficient for the purposes of an electric railway, which sooner or latter will be required to connect the Niagara Falls Park and River Railway with the Villages of Bridgeburg and Fort Erie, and especially with the City of Buffalo.

Under the agreement made with the Park and River Railway in 1894, provision has been made for a new roadway 60 feet in width to run along side and immediately west of the reserved lands from Chippawa Village as far as Slater's Dock, the present terminus of the electric road. The new roadway for about one-half of this distance has been opened up. The land for the balance has not yet been acquired ; but when completed this portion of the highway, about $1\frac{1}{4}$ miles, will be amply provided for—including all the width required for electric railway purposes.

PROPOSED PARK AT FORT ERIE

SCALE OF CHAINS

J. Wilson
Superintendent
1864 P. M. S.



Plan & accompanying Report of October 10th 1868.

From Slater's Dock to Black Creek—say $5\frac{1}{2}$ miles—the average width of the present highway is 39 feet, but this is reduced in many places to not much over 20 feet, a space wholly inadequate for a carriage way, side path and ditch.

Between Black Creek and the Village limits of Bridgeburg, a distance of $6\frac{3}{4}$ miles, the present width of roadway averages 28 feet, but there are numerous places where there is not over 12 feet, and in some spots this is reduced to only 9 feet between the fence line and the top of the steep bank, which in some of the narrowest places is almost perpendicular. The greatest erosion seems to be taking place on this portion of the road, the clay banks in several places presenting a raw appearance as in a newly excavated cellar. At some points in this section the road widens out to 60 feet or more; and near the township line there is an accretion to the roadway for a distance of about $\frac{1}{8}$ of a mile and varying from 50 to 400 feet in width, comprising an area of nearly 20 acres.

In front of the Village of Bridgeburg (about one mile in length) the width of the road varies considerably, the minimum being about 26 feet. It will not be necessary to widen the road over the greater part of this distance, except by filling in on the river side in some places. There are numerous buildings and garden plots which it would be difficult to disturb, and on the river side also there are obstructions, such as boat houses, wharves, etc. which in some cases would require to be altered before a proper roadway could be built. Through the Village of Fort Erie which adjoins Bridgeburg on the south, there is sufficient width for all purposes, although there are several encroachments on the reserve. In this municipality there has been no encroachment by the river, but at the south end a considerable accretion has been made, and the land so formed has been from time to time disposed of by the Dominion and Ontario Governments.

In view of the possible demand for electric railway purposes, it would not be advisable to provide a lesser width of roadway than the standard chain of sixty-six feet on the level, and in cases where the bank of the river is deeply cut into this distance may have to be increased in order to admit of an easy slope being given to the shore. In order to afford this width, strips of land of varying width would require to be purchased from the proprietors of lands adjoining the river aggregating a total of some 50 acres.

The cost of purchasing these narrow strips of land would, doubtless, be in excess of the value of farm land adjoining; but as the making of a good parkway connecting the Park at Niagara Falls with the projected Park at Fort Erie, and the possible construction of an electric railway connection between Buffalo and the Falls would greatly enhance the value of the whole frontage, I am of the opinion that the majority of the proprietors would deem this a compensation in part for the lands taken.

It seems to me that a work of this nature should have the cordial support, financial and otherwise, of the municipalities through which the road passes; and that an effort should be made to enlist their co-operation when the time for action arrives.

The whole respectfully submitted,

(Sgd.) JAMES WILSON,
Superintendent.

Niagara Falls, Oct. 10, 1898.

APPENDIX F.

SUPPLEMENTARY REPORT ON THE PROPOSED PARK AT FORT ERIE.

J. W. LANGMUIR, Esq.,
Chairman.

DEAR SIR:—In accordance with the instructions contained in the minute of the Board dated July 3rd, 1898, I beg to submit the following supplementary report on the proposal to take over the ordnance lands at Fort Erie, and to improve and maintain them as part of the general park system.

As noted in my report of date August 25th, 1896, the following lands are still vested in the Dominion Government, viz:—

(a) The grounds comprised in the reserve about the old Fort Erie.

(b) The lands used as station grounds of the Buffalo and Goderich Railway prior to the building of the International Bridge, but abandoned for railway purposes in 1873.

(c) Sundry village lots at one time disposed of by the Government, which have been abandoned by the purchasers and have reverted to the Crown.

(d) The highway along the river fronting a'l these several properties.

Of these several parcels of land the two first mentioned are suitable for development and park areas; but after careful examination I am still of the opinion that the best use which could be made of parcel (b) would be to borrow from it sufficient material to complete the development of the foreshore lying in front of the grounds of the old Fort, according to the scheme outlined in the plan attached hereto; and afterwards to divide it up into villa lots with graceful, well planted avenues and shrubberies, reserving however ample space in which to lay out a play ground and ball green, of generous dimensions, as an adjunct of the park for the perpetual use of the citizens.

On an examination of the map submitted herewith, it will be observed that it is proposed to give the old Fort grounds a substantial back ground of forest trees of irregular outline, but so laid out as not to encroach unduly upon the remains of the earthworks forming the outer defence of the fortifications.

The northerly corner of the ground being the position which was chiefly used as a military burying ground during the war of 1812-14, and where so many brave men lie buried, it is proposed to keep intact, only planting a few trees of weeping habit in vacant spots, to define the character of the place, and in order to preserve and perpetuate this lonely "God's acre" with something like Christian respect.

The present roadway in front is of the most primitive kind, and requires to be made into a good well-rolled macadamized road, properly graded and aligned, the ground on either side being levelled and surfaced with good soil and seeded down with lawn grass, with a row of suitable indigenous forest trees on either side following the general direction and grade of the road; and at a convenient distance therefrom a gravel pathway is proposed, suitable for bicycles or pedestrians, and extending across the whole of the frontage a distance of about 500 yards.

As all these grounds are at present used simply as a commons, where cattle roam at will, and in which it would not be possible to preserve young trees or shrubs from injury, it is proposed to fence in the property, the front having ornamentally turned and painted cedar posts and twisted galvanized steel wire fencing, so placed as to prevent the entrance of hogs or cattle.

As the surface of the ground outside the fortifications is in places very broken and rough, it is proposed to even it off, so that all the space to be left unforested may be kept well mowed and free from weeds, the slopes of the earth works being attended to by hand.

It is not proposed to construct any pathway through the grounds, it being preferable that free access shall be had to all points over the surface of the sod.

The walls of the Fort which remain standing it is proposed to cover with creepers of various kinds; but it is not proposed to make any repairs or replace any of the stones which have from time to time been thrown down.

None of the graves are now marked by head boards or stone monuments. The exact location of the burial place of even the officers who fell in the engagements has now been forgotten; and in fact it is not easy to trace the burial plots in any parts of the grounds, or to realize that many hundreds of soldiers—British and American—lie beneath the sod at this place. The grounds therefore do not present any of the appearances of a cemetery; and while nothing should be done to revive or restore that character to the place, yet it may be considered advisable to erect at some future day a memorial cairn or some simple form of monument by which to tell succeeding generations of the stormy events and the great sacrifices of life and treasure made at this historic spot in the war of 1812-14.

In respect to the best mode of treatment to be given the fore-shore in order to make it harmonize with the reserve about the Fort, there is, in my opinion, but one means to accomplish this in a manner at all worthy of the situation, and that is to take out of the shallow bed of the river and from the shore between low and high watermark, sufficient stone to construct a substantial sea wall across the whole of the front, and to fill up behind this with soil, so as to form a grand promenade with trees and shrubbery background. The wall could be ornamented with a rustic stone revetment and be equipped with ordnance of the time the Fort was constructed by the British and American armies.

This work would of necessity be somewhat costly; but if the principle and design are approved of, its construction need not be undertaken until funds are available for it, as the development of the grounds about the Fort can be gone on with quite independently.

The former railway station grounds, comprising some 25 acres in a triangular form and abutting on the old road bed by which the railway approached the water front in the Village, I have shown laid out into villa lots of commercial size. The old roadbed has been acquired by the Village for a street, and forms the chief route by which travel seeks the shore of Lake Erie west of the Erie Park.

From this land a considerable quantity of filling could be taken with advantage, and this could be utilized in making up the grand promenade before alluded to, as well as filling some low spots at the north-east corner of the plot. In order to provide a more graceful driveway between this plot and the Fort Erie park, a corner of land lying between it and the lake shore drive, of little present value, has been taken in, and affords a better arrangement of both drives and villa lots. The scheme outlined on the plan is of course tentative, and it may be found desirable to make some changes therein; but from this it can be seen how advantageously the land will divide up into desirable locations for either summer or winter homes.

The ball grounds shown are of an oval shape, 200 yards in its longest diameter and 150 yards in its greatest breadth. This size will admit of one end being kept for lawn tennis and croquet grounds—abundance of space being left for base-ball and other games.

Doubtless the laying out and planting of this parcel, and the draining, levelling and surfacing of the ball ground will require to be taken in hand before the villa lots can with advantage be disposed of; but in all probability the sale of the lots will ultimately more than recompense the outlay involved, and possibly yield a substantial moiety of the cost of maintaining the Park.

The whole respectfully submitted,
(Sgd.) JAMES WILSON,
Superintendent.

Q. V. N. F. Park, Niagara Falls, October 10th, 1898.

62nd VICTORIA.

Statutes of Ontario

CHAPTER II.

STATUTE LAW AMENDMENT.

Assented to 1st April, 1899.

35. The Commissioners of the Queen Victoria Niagara Falls Park with the approval of the Lieutenant-Governor in Council and the Canadian Niagara Power Company may enter into an agreement for the surrender and abandonment of the sole or exclusive right to use the waters of the Niagara River within the limits of the said park granted by the agreement bearing date the seventh day of April, 1892, between the Commissioners for the Queen Victoria Niagara Falls Park acting therein on their own behalf and with the approval of the Government of the Province of Ontario, and therein called the Commissioners of the first part, and Albert D. Shaw of Watertown, in the State of New York, Francis Lynde Stetson, and William B. Rankine, of the City of New York, in the State of New York, therein called the Company of the second part, and set out in Chapter 8 of the Statutes of Ontario, 1892, upon such terms and conditions as to abatement of rent, the extension of time for the completion of the contract under the said agreement or any variation of said contract and for other purposes in connection therewith as may to such commissioners and the Lieutenant-Governor in Council appear to be necessary or in the public interest and any such agreement so entered into shall be binding and effectual according to its terms.

Agreement
for surrender
of powers of
Canadian Nia-
gara Power
Co.

36. The said Commissioners with the approval of the Lieutenant-Governor in Council may enter into an agreement or agreements with any person or persons, company or companies, to take water from the Niagara River or from the Niagara and Welland Rivers at certain points within or without the said Park for the purpose of enabling such person or persons, company or companies, to generate within or without the park electricity or pneumatic, hydraulic or other power, conducting and discharging said water through and across the said park or otherwise, in such manner, for such rental and upon such terms and conditions as may be embodied in the agreement or agreements and as may appear to the Lieutenant-Governor in Council to be in the public interest.

Agreements
with other
companies

See amendment 3 Ed. VII, cap. 7 - page 249.

REPORT

OF THE

COMMISSIONERS

FOR THE

QUEEN VICTORIA NIAGARA FALLS PARK

1899

PRINTED BY ORDER OF
THE LEGISLATIVE ASSEMBLY OF ONTARIO.



FOURTEENTH ANNUAL REPORT

OF THE

COMMISSIONERS

FOR THE

QUEEN VICTORIA NIAGARA FALLS PARK

To the Honorable SIR OLIVER MOWAT, K. C. M. G.,

Lieutenant-Governor of the Province of Ontario.

MAY IT PLEASE YOUR HONOR:—

The Commissioners for the Queen Victoria Niagara Falls Park beg to submit their Fourteenth Annual Report, accompanied with the usual statement of receipts and expenditures, being for the year ending 31st December, 1899.

In their last annual report the Commissioners made an extended reference to the delays which had occurred in commencing the works for the developing of the water power of the Falls for manufacturing purposes, and set forth the temporary arrangement which had been entered into for the supply of electricity to meet the immediate requirements of local users from the surplus hydraulic power generated in the power houses of the Niagara Falls Park and River Railway.

As public sentiment distinctly appeared to favor the cancellation of the monopoly clause in the Canadian Niagara Power Company's agreement and the granting of equal rights to other companies desirous of using the water power of the Falls for commercial purposes, the Legislature at its last session passed an Act (62 Vic. 2, chap. II, par. 35) conferring upon the Commissioners authority to negotiate with the Canadian Niagara Power Company for the surrender and abandonment of the sole or exclusive right to use the waters of the Niagara River within the limits of the Park, granted by the agreement of April, 1892, upon such terms and conditions as might appear to be necessary in the public interest.

After protracted negotiations the Commissioners, with the approval of the Government, on July 15th last, entered into a new agreement by which the exclusive right in the waters of the Niagara River within the Park, heretofore enjoyed by the company, was abandoned, and the time for commencing and completing the initial development of 25,000 hydraulic and 10,000 electrical horse power was extended. Approval was also given the specifications and revised plans of works which the company require in the carrying out of their enterprise in the Park.

In order to secure the abandonment of the monopoly clause on the part of the company, it was found necessary to make some concession in the rental, which would facilitate the financing of the enterprise, until a market for a reasonable amount of the product could be found and the business of the company placed upon a secure basis. The Commissioners are convinced that the principle adopted in the new agreement of paying a fixed rental for the first 10,000 horse power generated and disposed of, and thereafter a charge for every additional horse power sold, will produce a much larger revenue to the Commissioners in the course of a few years, and will assist greatly in inducing other capitalists to engage in developing other and competitive power projects, to the great and permanent gain of the community and the best interests of the Park and of the Province.

The terms of this agreement will be found in the appendix to this report.

Since the execution of the agreement, the Company have been engaged in making core test holes at several points along the line of its proposed works, in order to determine the nature of the rock in which their excavations and tunnels will be constructed.

By the Act 62 Vic. (2) chap. 11, par. 35, above referred to, authority was conferred upon the Commissioners, subject to the approval of the Lieutenant-Governor in Council, to enter into agreements with any other persons or companies for using the waters of the Niagara or Welland Rivers to generate electric or other power at certain points, within or without the park, upon such terms and conditions as might be agreed upon. Under the provisions of this authority the Commissioners have concluded an agreement with the Ontario Power Company, a company holding a charter under the Dominion Government, to utilize the waters of the Welland River for power purposes.

Under this agreement, the text of which will be found in the appendix to this report, the Ontario Power Company propose to develop power under two heads. In the first instance the waters of the Welland River will be conducted in an open canal or head race to a power house located in the park immediately behind the present gravel pit; and after passing through the water wheels will be discharged directly into the Niagara River, at a point a short distance up stream from the proposed intake of the Canadian Niagara Power Company. At this power house a head of over forty feet may be utilized. In the event of the power generated at the first power house being insufficient to meet the demands of customers, the Company have the right to conduct the spent water from the tail race of the first development by means of an open channel within the park to within a short distance of the Table Rock House; thence by means of a covered forebay or underground channel to a second power house situate on the talus in the gorge below the Falls, where the full available hydraulic head of the Horse-shoe Falls may be obtained.

The rental to be paid by this Company for the rights granted is identical with that fixed by the new agreement with the Canadian Niagara Power Company, viz., a fixed rental of \$15,000 a year for the first 10,000 electrical horse power generated and disposed of, and an additional charge for every horse power disposed of beyond the first ten thousand. The sum of \$30,000, being the amount

of two years' rental, has been paid to the Commissioners. The time limit and the other requirements of the agreement are practically identical with those stipulated for in the new agreement with the Canadian Niagara Power Company.

By an accidental contact of the wires connecting the large new generators placed in the power house of the Niagara Falls Park and River Railway Company to supply electricity to local users for manufacturing purposes, this substantial structure, together with all the electrical apparatus and appointments contained therein, were destroyed by fire on the night of September 4th last. By the destruction of this power station all the industries which had been using electrical power were at once crippled, and some of them which had no other means of obtaining power were compelled to close up.

On representations being made to the Commissioners and the Government that many interests were suffering for want of this power, and that some time must necessarily elapse before the generating station of the railway company could be restored, and there being at the present time no other available source from which a supply could be obtained, authority was granted by the Commissioners to the Canadian Niagara Power Company to bring over from the American side sufficient electricity to supply the Niagara Falls Park and River Railway and the industries which were under contract with that Company for the delivery of power at the time of the fire. But this authority was granted on the distinct understanding that it was for temporary purposes only, and was in no sense to delay the carrying out of the works of the Company under their agreement, and that the privileges may be abrogated at any time by the Commissioners or by the Government.

The Fort Erie Ferry Railway Company, owning and operating the short line of railway extending from Fort Erie southward along the lake shore to a pleasure resort, having obtained legislative authority to extend their line in a northerly direction to or near the Village of Chippawa, made application for a right of way upon the lands of the Commissioners, known as the Chain Reserve, which lies along the west bank of the Niagara River, in front of the Villages of Fort Erie and Bridgeburg and the Townships of Willoughby and Bertie, and upon which a public road is constructed. As much of this reserve has been narrowed in by the erosion of the river, and as in front of certain farms no reserve was made when the original patents were granted, it became necessary to acquire additional lands in order to provide sufficient room for both the highway and railway.

By the terms of the agreement made with this Company they are to secure all the additional lands required, and vest the same in the Commissioners, form a suitable highway of prescribed width, provide all the necessary drainage, bridges, etc., on the west side of the acquired lands, after which a single or double track railway, to be propelled by electricity, may be constructed along the water's edge, from the present northerly terminus of the Company's line at the International Ferry in Fort Erie to Slater's Point, the present southerly terminus of the Niagara Falls Park and River Railway.

The rental which the Company is to pay to the Commissioners for the rights granted is at the rate of \$1,000 a year for the first seven years, \$1,200 a year for

the following three years, \$1,500 a year for the next five years, and \$2,000 a year for the balance of the twenty-one years' period.

In their last report the Commissioners referred at length to the continued defacement of the historic grounds around old Fort Erie, and to the desirability of having the ordnance lands at this place transferred to them, so that the properties may be preserved and developed as a part of the Niagara Falls Park system. In addition a full report of the Superintendent of the Park on the method of treatment proposed for improving the property was given.

The Commissioners regret to learn that an effort is being made to lease this historic ground for a term of years to a number of Buffalo gentlemen for a golf ground, and that it is proposed to erect thereon a club house and other buildings. There are not many places in Ontario more closely associated with its early struggles than Fort Erie; and we cannot refrain from expressing our hope that a more honorable and worthy disposition shall yet be made of this hallowed ground, the scene of many sanguinary battles in 1812-14 and where many of our honored dead still lie buried.

On the 21st of July the International Bridge at Queenston Heights, which has been erected on the site of the former carriage suspension bridge built in 1850 and destroyed by a storm a few years later, was formally opened for traffic. It is a very substantial structure, with a central track for the interchange of traffic between the Niagara Falls Park and River Railway and the Gorge Electric Railway, and two carriage ways for vehicular traffic.

In last year's report a number of important permanent improvements were enumerated, which the Commissioners considered to be urgently required in the park, and a small additional issue of park debentures was recommended in order to secure their execution. The recommendation was not acted upon; but owing to the increased revenue which we have been able to secure, through the granting of the rights and privileges above referred to, provision for some of these works can now be made out of income. There are, however, several very important improvements which the Commissioners are desirous of carrying into effect this year that will require an expenditure beyond what can possibly be obtained from revenue account; and they, therefore, again recommend that authority be given to issue park debentures to the amount of twenty-five thousand (\$25,000) dollars, in order that early provision may be made for these important improvements. The debentures to bear interest at the rate of three and one-quarter per cent., and to mature at the same date as the previous issues.

A detailed description of the works undertaken and accomplished during the year will be found in the report of the superintendent of the park, which is appended hereto.

The following statement will show the receipts and expenditure for the year:

RECEIPTS.

Rental from the Canadian Niagara Power Company.....	\$20,000 00
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Rental from the Niagara Falls Park & R.	
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Ry. Co.	10,000 00
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Rental from Zybach & Co.....	8,200 00	
Rental from the Maid of the Mist Steam- boat Co.....	300 00	
From tolls on islands and at Brock's Monu- ment.....	1,808 20	
From sales of materials, etc.....	480 72	
“ Imperial Bank, interest on balances..	38 19	
“ “ “ “ overdraft on Decem- ber 31st, 1899.....	6,790 75	
	<u> </u>	\$47,617 86

EXPENDITURE.

Paid Imperial Bank overdraft on January 1st, 1899.....	\$ 729 71	
Capital account—		
Paid for permanent improvements, includ- ing cost of materials.....	\$ 6,040 53	
“ wages of mechanics and laborers.....	2,010 00	
“ miscellaneous, including legal expenses.	180 00	
	<u> </u>	8,230 53
Maintenance account—		
Paid salaries and wages, including wages of laborers, teams, etc.....	\$11,948 40	
“ cost of materials.....	1,760 38	
“ office expenses, etc.....	213 23	
“ Commissioners' expenses.....	178 24	
“ miscellaneous “.....	243 00	
“ interest on bank overdrafts.....	139 18	
	<u> </u>	\$14,482 43
“ coupon interest on bonds and bank charges.....	24,175 19	
	<u> </u>	\$47,617 86

All of which is respectfully submitted,

J. W. LANGMUIR,
Chairman,
GEORGE W. WILKES.
B. E. CHARLTON.
JAS. BAMPFIELD.
A. M. CAMPBELL.

Niagara Falls, April 13th, 1900.

APPENDIX A.

REPORT OF THE PARK SUPERINTENDENT.

To the Commissioners for the Queen Victoria Niagara Falls Park:

GENTLEMEN,—I beg to submit the following report of the works done in connection with the Niagara Falls Park, during the year ending 31st December, 1899:

GENERAL MAINTENANCE.

Notwithstanding the unusual severity of the winter, the spring of 1899 opened favorably, and the customary cleaning up and other works included under this heading were early begun. The Board having enjoined the strictest economy in expenditure, these works were necessarily confined to the improved portions of the park at Niagara Falls and Queenston Heights, and but little could be done to the many outlying points where improvements have been commenced.

In last year's report the works necessary for the reclaiming and improving of the unsettled portions of the park system were referred to as being steadily carried on from year to year, and it is greatly to be regretted that circumstances should prevent this principle from being adhered to, even for one year, as there is much territory remaining practically uncared for, which it is most desirable to have improved at the earliest possible moment.

THE DRIVEWAY.

As it had been found impossible to maintain a good surface to the principal driveway through the park by means of the gravel found on the premises, it was decided to re-surface the whole of the road extending from the Mowat Gate to Table Rock, including the several turnouts, with macadam. The foundation for this roadway having been substantially constructed in the first instance, comparatively little work beyond rolling was required to prepare a proper bed for the broken stone. This was procured from the St. Davids and Hagersville quarries; and after the road bed had been thoroughly consolidated by the steam roller, the stone dressing was applied in successive layers, compacted and brought to a hard, smooth and well formed surface, the whole having been completed before the opening up of the summer travel.

In order to secure a better grade for the upper end of the road, it was necessary to raise the sidewalk and railing between the Restaurant and Table Rock, and to define the easterly margin of the driveway with curb stone. As this portion of the driveway is continuously drenched with spray, additional cross drainage was put in so as to afford a ready means for the removal of surface water. The improvement to this portion of the park is very marked, and an opportunity will be given to test the permanence of the macadam under the severe conditions obtaining in this vicinity.

The pathways on either side of the main driveway from the Mowat Gate to the Pic-nic grounds were raised to correspond to the new road levels, by applying a heavy coating of cinders and surfacing with selected and screened gravel.

A few low and wet spots in the driveway south of Table Rock were filled up with macadam; but as the traffic on this part of the road is comparatively light, repairs where needed were made in the usual way with ordinary pit gravel.

TREES, SHRUBS AND PLANTS.

A very good collection of flowering shrubs was secured from the Font Hill Nurseries and put out in good season, and a few choice conifers for specimen trees and for screens, where desired, were added to our stock, but the necessity for economy in expenditure prevented as large an addition as was desirable.

The exceptionally severe weather experienced last winter did some slight damage to the more tender varieties of trees and shrubs which had been previously put out. The abnormal conditions consisted not only in low temperature but in absence of snow, sudden changes from low to high temperature, sleet storms, etc.; so that an excellent opportunity has been afforded of testing the hardihood of plants not indigenous, but which we are most desirous of having in the park; and the fact that out of our collection of sixty-two of the finest varieties of lilacs, imported from France and set out last year, only three have perished, and the safe wintering of Azalias of the Mollis and Ghent varieties, Rhododendrons, Chinese magnolias, Paulonia Imperialis, Forsythias and the tender varieties of the Duetzia, without any kind of winter protection, afforded a striking proof of the suitability of the park for the cultivation of delicate and half hardy stock which cannot be safely grown in other parts of Ontario.

CONSERVATORY.

A small addition was made to the collection of flowering plants in the Conservatory, which continues to attract much attention from both citizens and visitors. A large stock of choice bedding and flowering plants for outside service is propagated annually, in order to brighten the pic-nic grounds and other points in the park, where the use of flowers is permissible. A good beginning has also been made in setting out a large variety of bulbs for early spring blooming.

SHORE PROTECTION.

The portion of Riverside Ramble extending from the electric railway bridge to the summer house under Clark Hill, which had not been completed in 1898, was properly filled up with stone and surfaced with gravel. The whole length of this shore protection work is now railed and finished, and forms a shady and much appreciated promenade. The renewing of the cribwork, which also forms the walk along the south side of the Dufferin Islands, should have been attended to this year, but of necessity had to be left over until next year.

BRIDGES AND BUILDINGS.

Only the most necessary repairs were made to the park bridges during the year. The foot suspension bridge leading to the Dufferin Islands is past repair, and requires to be wholly rebuilt. The two driveway suspension bridges require extensive renewals and repairs both to the chords and the needle beams before the season opens, in order to make them safe for traffic. At the best these suspension structures are unsatisfactory.

The stability of the anchorage on which the safety of the bridge depends is not definitely known, and on busy days the stoppage of traffic caused by the single way is annoying to visitors, while the bridge structures are costly to maintain. They should be replaced as soon as possible by rigid double way bridges of steel, suitably designed and of a high degree of permanence.

The gate man's dwelling at the Dufferin Gate was put in a good state of repair during the season. The valley in the roof was taken out and a high pitch roof substituted, which admitted of two more bed rooms being provided up stairs and other needed accommodations arranged for.

LAWN TENNIS COURTS.

An urgent request was made in the spring, by a number of the leading citizens, for a portion of the park to be set apart for a lawn tennis. A two court ground was selected, graded and sodded, which proved to be a desirable addition to the facilities for enjoyment already afforded by the park. Suitable water supply is, however, needed for sprinkling the courts in dry weather.

The grading and surfacing of the front of the park, which was begun in 1898, could not for economical reasons be carried on during the year.

ICE BRIDGE.

The unusual severity of the winter was clearly demonstrated by the enormous flow of ice in the river. This jammed at the narrows immediately below the upper steel arch bridge, and formed an ice bridge of more than usual grandeur. The constant stream of ice appeared to have difficulty in finding a passage under the ice bridge in the narrowest part of the gorge, and in consequence the water level south of this point was at times raised to an unusual height. On the 24th of January for instance it was thirty feet above ordinary summer level, while in the spring when the ice bridge gave way, the mounds of ice piled up to such an extent as to rub against the spandrels of the steel arch bridge in passing down stream. As a result of this great accumulation and movement of ice, the wharves of the Maid of the Mist Steamboat Co. on both sides of the river were destroyed; and at many points along the shore the heavy masses of rock forming the talus were shoved out of place, and trees and vines growing above the ordinary water mark were torn up and carried away.

WHIRLPOOL POINT AND NIAGARA GLEN.

The filling up of a portion of the grounds at Whirlpool Point with soil, referred to in last year's report, afforded an opportunity of setting out some good foliage trees and shrubs on this very bare but much frequented part of the park system. Good shade and rustic shelter are badly needed at this point.

At Niagara Glen an improved pathway leading to the spring was made; and the immense overhanging boulder which partially blocked the way was blasted off. The first link in the pathway designed to skirt the water's edge, from the spring southwards to Fisherman's Eddy, was also constructed. This path will command a close view of the majestic sweep of the rapids, and the short portion already made has been much appreciated by visitors.

QUEENSTON HEIGHTS.

During the year no new works of importance were attempted at Queenston Heights. The dense growth of cedar on the slope of the Heights and in the grove west of the monument was thinned out and all dead wood removed. The

delicious cool water from Brock's Spring was carried to a point near the keeper's lodge, and facilities for drawing and draining it off provided. The path leading to Brock's Cenotaph was gravelled and the ground kept in nice order.

The construction of approaches to the new suspension bridge and the transport of heavy materials for the structure involved much cutting up of the ground between the highway and the bridge. Until this damage is repaired and the new earthwork is covered with foliage or grass the scenic effects must be objectionable. A great deal of cleaning up and thinning out is needed in this portion of the park grounds to make it attractive.

NEW SUSPENSION BRIDGE.

The beautiful suspension bridge erected by the Queenston Heights Bridge Co. on the site of the former structure, was formally opened for traffic on July 21st. The dinner given to celebrate the event was served upon the Heights, and a distinguished company from both sides of the Niagara assembled to honor the occasion.

The ordnance lands west of Brock's Spring and extending along the Heights to the second concession, which are now under the control of the Commissioners, require to be fenced off and the property made accessible to visitors, but this, like many other very necessary works, has had to be deferred.

The whole respectfully submitted,

JAMES WILSON,

Superintendent.

NIAGARA FALLS, 31st December, 1899.

APPENDIX B.

This agreement made this fifteenth day of July, 1899, between the Commissioners for the Queen Victoria Niagara Falls Park, acting herein on their own behalf and with the approval of the Government of the Province of Ontario, and hereinafter called the Commissioners of the first part, and the Canadian Niagara Power Company, of the second part.

Whereas by the Act of the Legislature of Ontario passed at a session held in the sixty-second year of Her Majesty's reign, chaptered 11, and by section 35, it is enacted as follows:

"The Commissioners of the Queen Victoria Niagara Falls Park, with the approval of the Lieutenant-Governor in Council, and the Canadian Niagara Power Company may enter into an agreement for the surrender and abandonment of the sole or exclusive right to use the waters of the Niagara River within the limits of the said Park granted by the agreement bearing date the seventh day of April, 1892, between the Commissioners of the Queen Victoria Niagara Falls Park acting herein on their own behalf and with the approval of the Government of the Province of Ontario and therein called the Commissioners of the first part, and Albert D. Shaw of Watertown, in the State of New York, Francis Lynde Stetson and William B. Rankine of the City of New York, in the State of New York, therein called the company of the second part, and set out in chapter 8 of the Statutes of Ontario, 1892, upon such terms and conditions as to abatement of rent, the extension of time for the completion of the contract under the said agreement or any variation of the said contract and for other purposes in

connection therewith as may to such Commissioners and to the Lieutenant-Governor in Council appear to be necessary or in the public interest, and any such agreement so entered into shall be binding and effectual according to its terms."

Now therefore this agreement witnesseth and it is hereby agreed by the parties to these presents as follows, that is to say:

1. The location of buildings and power houses as defined by paragraph 1 of the agreement of the 7th April, 1892, above recited, is changed to the location shewn on the plan annexed marked A, and the points of intake and discharge indicated and laid down on such plan are hereby declared to be the locations settled according to the provisions of the agreement of the 7th April, 1892, as if the same had been described and selected in terms of said agreement with the approval of the Commissioners.

(a) And these presents testify approval by the Commissioners of the location of the building and works with their accompanying requirements to be done and executed by the Company in respect of the powers to be exercised within the Park which, by paragraph 14 of the agreement of the 7th April, 1892, are to be subject to the approval of the Commissioners.

(b) The expression "general plans and specifications or general specifications" mean, and are to be taken to mean, the plans and specifications submitted by the Company to the Commissioners for approval, of which one complete set will remain in the possession of the Commissioners and the other in the possession of the Company; and both duly identified at the time of the execution of these presents, under the corporate seals of the respective parties hereto, as also under the hands of the head officers thereof.

(c) Such general plans and general specifications shall form part of this agreement and are as to their approval by the Commissioners to be controlled by the designs and changes therefrom appearing upon the annexed plan marked "A" and the terms in these presents set forth, which plan and terms shall be taken as varying the said general plans and specifications and the agreement of the 7th April, 1892.

(d) As to the provisions of paragraph 14, sub-section A of the agreement of the 7th April, 1892. "In respect of the excavation of the channels to lead the waters of the Niagara from the point or points of intake to the location of the power houses, including the precautions necessary in relation to making openings under the railway for the admission of the waters of the river, including the wheel pits, tunnels and portals to discharge the same, and the point of such discharge below the Falls."

The Commissioners hereby approve of the location of the said works described in the above sub-section as indicated upon the plan hereto attached, to be constructed in detail as in the general plans and specifications of works to be done, as by the plan hereto attached are changed or varied.

Provided, that the Company do obtain an instrument under the corporate seal of the Niagara Falls Park and River Railway Company granting to the Company, with the approval of the Commissioners signified as parties thereto, the right to make openings at the points of intake under the railway in accordance with the plan marked "A" hereunto attached and having relation to the general plans and specifications above mentioned, and also that the Company do obtain the approval of the proper authority for the construction of bridges to carry the railway over such openings, and that in respect of such works as affect the railway or any damages sustainable thereto, the agreement shall provide that the Railway Company shall have no recourse against the Commissioners.

(e) As to the provisions of sub-section (b) of paragraph 14: the site of the building and power house as laid down on the plan annexed, to be in accordance with the general design and form as in general plans and general specifications.

(f) As to the provisions of sub-section (c) of paragraph 14: the construction of the conduits to convey electricity or pneumatic power without the Park in furtherance of paragraph 7 of the agreement of the 7th April, 1892, shall be conveyed only by means of conduits beneath the Park at such depth as the Commissioners may from time to time determine.

(g) The Company shall remove all surface soil from the site or sites of the work, and deposit the same as when and where directed by the Commissioners.

Such surface soil shall be available for any purposes within the Park for which the Commissioners may have use as they may be necessary or convenient, and they may use and apply the same to such uses, without any compensation being made to the Company therefor, nor shall the Company be thereby relieved from the covering up and filling with good soil as a top dressing of any of the refuse or excavated materials which the Company are by these presents required to distribute and cover up with good soil.

(h) The removal and distribution of excavated or refuse material from the excavations of the channels from the point or points of intake for the foundations, construction of the building and power house, wheel pits, sluiceway, tunnel and portal to discharge the waters at foot of the cliff below the Falls, conduits within the Park to convey the electricity or pneumatic power to places beyond the Park, and from any other works which are agreed to be done by the Company, by these presents, or by the agreement of the 7th April, 1892, shall be distributed and deposited wholly or in part as the Commissioners may from time to time require and point out at the localities hereinafter specified.

(1) Either by way of extension of the foreshore of the Niagara River in an easterly direction from the edge of the Horse Shoe Fall southward along the river bank, in accordance with the alignment shown by red lines on the annexed plan marked "new shore line to which excavated material shall be deposited." Such material along such line shall be protected at the base or where in contact with the water by massive stone riprap.

(2) Or in filling up the natural stream of the Niagara River flowing between Cedar Island and the mainland or any part thereof.

(3) Or in raising the level of the west bank or shore of Cedar Island.

(i) And all the area or space over which such material shall be distributed shall be covered over with good soil, and put in condition for sowing grass seeds or planting.

(j) If there be any material which the Commissioners deem to be in excess of their requirements of distribution or the requirements of the Company, it shall be taken away by the Company and disposed outside the park limits.

(k) The excavated or refuse material taken out at the portal at foot of the cliff below the Falls and not required by the Company, shall be distributed at some point or points below the cliff as the Commissioners may from time to time point out, but shall not require to be covered with good soil.

(l) Tramways for construction purposes shall be placed or changed only on the approval of the Commissioners; steam power for drilling, excavating or hauling materials, or driving machinery, shall not be used on the surface of the park, but below the cliff only, but steam power may be used on the surface of the park for furnishing compressed air for drilling and other purposes connected with the works.

(m) So soon as the Commissioners deem that in the execution of any of the works to be by the Company done or performed, or preparations for the same, the main travel driveway through the park, or other Park Road, or pathway now in use, is or about to be incommoded or interfered with, the Company shall forthwith make such deviations of the said driveway or other ways as the Commissioners shall direct and require, although such deviation of the driveway may require a bridge to be built from Cedar Island to the mainland. The safety of

any bridge to be built, and provisions for the public safety at such deviations shall not be inferior to those of other bridges or ways presently in use within the park.

(n) Whereas by paragraph 6 of these presents the period of time in paragraph 10 of the agreement of the 7th April, 1892, relating to the completion of water connections for the development of 25,000 horse power and having actually for use, supply and transmission 10,000 developed horse power is extended to the first day of July, 1903, and subject in the case of non-completion on the said day last mentioned to the forfeiture of all licenses and powers as by said paragraph 10 is provided; such provisions for forfeiture in said paragraph 10 being wholly irrespective of the provisions for forfeiture provided by paragraph 4 of the agreement of the 7th April, 1892, in case matters might arise giving occasion for the exercise of forfeiture; and whereas time is made of the essence of the contract for the observance by the company of the several provisions contained in both said paragraphs 10 and 4 and each of them, it is hereby further agreed that in respect of all other matters by the company agreed to be done by the period hereinafter limited such as distribution and removal of excavated or refuse material and finish and ornamentation of surfaces, including the perfected condition of the roads, bridges, and other works, not necessarily affecting the development and transmission of the electrical or pneumatic power above described as the Commissioners may require to be done, completed, and made perfect in accordance with the general specifications as varied by the plan hereto annexed, shall be done and completed by the first day of July, 1904, in every respect in perfect condition.

(o) If the company should not complete the works lastly mentioned, namely, distribution and removal of excavated or refuse material and finish and ornamentation of surfaces, including the perfected condition of the roads and bridges and other works lastly mentioned, and deliver them over to the Commissioners in good and complete order and condition to their satisfaction, on or before the 1st day of July, 1904, the company shall pay to the Government of Ontario, by way of ascertained damages, the several sums hereinafter mentioned, that is to say, the sum of five hundred dollars per week, for each week that the same, or any parts of said works, remain incomplete after such time, whether the contract has been forfeited by the several conditions in these presents or in the agreement of the 7th of April, 1892, or abandoned by the company or not.

(p) In the event of the works as hereinbefore specially specified in the preceding sub-section lettered (o) not being completed within twelve months after the 1st day of July, 1904, the company shall pay the sum of ten thousand dollars (\$10,000), in addition to the sum of five hundred dollars for each and every week as aforesaid. Such sums of five hundred dollars per week and the sum of ten thousand dollars shall be considered as ascertained and liquidated damages.

2. The said agreement of the 7th April, 1892, in respect of the amount of rentals and period for which the same is payable is hereby amended by providing that from and after the first day of May, 1899, the rent payable under the said agreement in lieu of that specified in paragraph 4 thereof shall be up to the first day of May, 1949, the sum of fifteen thousand dollars per annum, payable half-yearly on the same days and times as specified in said paragraph 4 of said agreement and in addition thereto payment at the rate of the sum of one dollar per annum for each electrical horse power generated and used and sold or disposed of over ten thousand electrical horse power up to twenty thousand electrical horse power and the further payment of the sum of seventy-five cents for each electrical horse power generated and used and sold or disposed of over twenty thousand electrical horse power up to thirty thousand electrical horse power and the further payment of the sum of fifty cents for each electrical horse power generated and used and sold or disposed of over thirty thousand electrical horse power; that is to say, by way of example, that on generation and use and sale

or disposal of thirty thousand electrical horse power the gross rental shall be \$32,500 per annum payable half-yearly, and so on in case of further development as above provided, and that such rates shall apply to power supplied or used either in Canada or the United States. Such additional rentals as shall be payable for and from such generation and sale or other disposition as aforesaid to the Commissioners shall be payable half-yearly at the rate above specified on the first days of November and May in each year for all power sold in the said several half-yearly periods from the day of sale; and within ten days after said first days of November and May in each year on which such additional rentals shall be payable respectively the treasurer, or if no treasurer the head office of the company shall deliver to the Commissioners a verified statement of the electrical horse power generated and used and sold or disposed of during the preceding half year, and the books of the company shall be open to inspection and examination by the Commissioners or their agent for the purpose of verifying or testing the correctness of such statement, and if any question or dispute arises in respect of such return or if any statement delivered at any time by the company to the Commissioners of the quantity or amount of the electrical horse power generated and used and sold or disposed of or of the amount payable for such additional rentals the High Court of Justice of Ontario shall have jurisdiction to hear and determine the same and to enforce the giving of the information required.

3. All the provisions of the agreement of the 7th April, 1892, applicable to the rent thereby reserved, including the proviso in paragraph 4, relating to the re-entry and forfeiture in case of rent being in arrear, shall be applicable to the rentals payable under these presents.

4. After the first day of May, 1949, the same rentals as are hereby reserved shall continue to be paid by the said company unless the Lieutenant-Governor-in-Council shall desire a readjustment of the said rent, in which case the rentals for a further period of twenty-years shall be readjusted by agreement and in the absence or failure of agreement by the parties hereto then the rentals for such further term shall be ascertained by three arbitrators, or a majority of them, one of whom shall be named and appointed by the Commissioners, another by the company and the third by the Chief Justice or senior presiding Judge of the Provincial Court of Ultimate Appellate Jurisdiction for Ontario, and the award of such arbitrators shall be subject to the same provision of law as if the said arbitrators had been appointed by the said parties upon a voluntary reference under the Revised Statute of Ontario respecting arbitrators and references, and the Lieutenant-Governor-in-Council may in the like manner for two further periods of twenty years each, require a readjustment of said rentals, in which case the same shall be determined as aforesaid, and at the expiration of such three periods of twenty years each the term so limited by these presents shall determine and end in accordance with all provisions contained in paragraph 5 of the agreement of the 7th April, 1892. Either party to such arbitration may appeal from any such award upon any question of law or fact to the said Provincial Court of Ultimate Appellate Jurisdiction for Ontario, and the said Court shall have the same jurisdiction therein as a judge has on an appeal from a report or certificate under section 4 of the aforesaid Revised Statute respecting arbitrators and references. And it is hereby further agreed that at any time not less than three years before the period at which such third renewal of twenty years shall terminate the Lieutenant-Governor-in-Council, and notice thereof to the company given, may require the company to continue its operations for a further period of twenty years, to commence from the termination of such third renewal, at the same rentals as shall have been paid during the said third renewal period of twenty years, or at a readjustment of said last mentioned rentals for such further period of twenty years by agreement, and in the absence or failure of agreement by the parties hereto, then the rentals for such further term of twenty

years shall be ascertained by arbitration in manner and form according to the provisions for arbitration hereinbefore contained, and in the event of such option being so exercised the terms and provisions of the agreement of the 7th April, 1892, and of these presents shall extend and bind the parties hereto until the said period of twenty years shall have elapsed and expired, but the exercise of such option requiring such further renewal by the Lieutenant-Governor-in-Council shall not change, alter or affect the provisions in respect of the termination of the liberties, licenses, powers and authorities contained in paragraph 5 of the agreement of the 7th April, 1892, and so declared applicable at the termination of the said last mentioned or fourth renewal.

5. Paragraph 9 of the agreement of the 7th April, 1892, shall hereafter and henceforth be null and of no effect, it being agreed that the Commissioners will not themselves engage in making use of the water to generate electric or pneumatic power except for the purposes of the park, and saving the provisions contained in paragraph 12 of the agreement of the 7th April, 1892. Provided that in case the said Commissioners shall have granted to any other person or corporation license to use the waters of said Niagara or Welland rivers and by reason of failure of such person or corporation to carry on the work so licensed the said Commissioners find it necessary to forfeit said license and take over said works, this clause shall not prohibit said Commissioners from operating such works for the generation and transmission, sale or lease of electricity or power.

6. The provisions in paragraph 10 for the completion of the works therein specified are extended to the First day of July, 1903, and if not then completed the Lieutenant-Governor-in-Council may declare the agreement of the 7th April, 1892, and its variations by these presents, and also these presents, the liberties, licenses, powers and authorities so granted and every of them to be forfeited and void, and thenceforth after such declaration the same shall cease and determine and be utterly void and of no effect whatever.

7. So long as the agreement of the 7th April, 1892, as varied hereby, and these presents are in force, the Commissioners undertake and agree that the amount of rentals which may be fixed and charged for the right to use the waters of the Niagara or Welland Rivers within the Park for the purpose of generating electricity by any other company or person shall not be at less rentals than is provided and reserved by these presents, and, further, that any such company shall be subject to the like restrictions as in paragraph 11 of the said agreement of the 7th April, 1892. Provided, however, that notwithstanding anything in this paragraph contained, the rentals so to be fixed and charged against any other company or person may be reduced below the rentals provided and reserved by these presents so far only as such reduction may fairly and reasonably be allowed in respect of the increased cost of the construction of the canal or of canal and tunnel within the Park, by reason of its greater length or other ground of expense in its or their construction, whether required for supply or waste, through the Park to the point of discharge into Niagara River in excess of the distance between the power house of the Niagara River Power Company and the point of discharge into the Niagara River, such reduction not to be an amount sufficient to give any undue advantage as against the parties of the second part except by reason of such increased cost of canal or tunnel or both, as the case may be.

8. The Commissioners agree to grant as may be requested by the Company and the Niagara Falls Park and River Railway Company the right to use the waters of the Niagara River up to the 1st day of July, 1903, to generate electricity from the plant of the said railway company, or such other plant as the company may substitute for or add thereto under the agreement with the said railway company to be used beyond the Park and in such manner as is provided by the agreement of the 27th November, 1897, made between the party hereto of the second part, as therein defined The Niagara Falls Park and River Railway

Company, and the Commissioners party hereto of the first part, but the exercise of such powers, nor the quantity of power thereby generated shall not be allowed or taken to be in diminution of the quantity of power to be completed and had ready for use, supply and transmission as required by paragraph 10 of the agreement of the 7th April, 1892, as by these presents amended and extended and as to such electric power to be generated under the powers contained in the agreement of the 27th November, 1897, and to be extended in accordance with these presents as aforesaid up to the first day of July, 1903, it is hereby agreed that the powers and provisions contained in paragraph eleven of the agreement of the 7th April, 1892, shall apply to and form part of these presents up to the first day of July, 1903.

9. Nothing herein contained shall affect the provisions of the agreement of the 27th November, 1897, made between the Canadian Niagara Power Company, of the first part, the Niagara Falls Park and River Railway Company, of the second part, and the Commissioners of the Queen Victoria Niagara Falls Park, of the third part.

10. The said company shall not amalgamate with any other corporation or company heretofore or hereafter incorporated by or under the laws of the Dominion of Canada or by or under authority of the Province of Ontario or which shall be hereafter be licensed by the said Commissioners to take and use the waters of the Niagara or Welland Rivers or both for the purpose of generation and transmission of electricity without the consent of the Lieutenant-Governor in Council to such amalgamation, nor shall they enter into any arrangement or agreement for that purpose with any such company which may directly or indirectly have that effect, or which may or shall have the effect of keeping up the price or prices of said power, nor shall they enter into an agreement with any such company for pooling the receipts of the said company, or of any part thereof, with those of such other company, nor which shall provide for or have the effect of establishing a common charge or schedule of charges for the use of the said power or any part thereof.

11. It is further agreed that if from any cause the supply of water at the point of intake as by these presents defined be diminished, the company shall have no claim or right of action against the Commissioners, but may deepen such point of intake to such extent as to restore the supply of water to the volume or quantity necessary for the purposes of the company, and that the granting or licensing of rights to the company by these presents or the agreement of the seventh day of April, 1892, as hereby extended shall not give the company any right of action against the Commissioners. Nor give to the company any right of action against other licensees or grantees of the Commissioners in respect of any diminution not substantially interfering with the supply necessary for the company, nor so long as such necessary supply can be obtained by means of deepening at said point of intake.

12. And the said parties hereto mutually and respectively covenant, promise and agree with each other to carry into effect, perform and fulfil all the provisions and stipulations in these presents contained and to be carried into effect, observed, performed and fulfilled by the said parties respectively.

13. The provisions of the agreement of the 7th April, 1892, are to stand except where hereby expressly varied, and this agreement shall be read with the agreement of the seventh day of April, 1892, as though the two instruments formed one agreement.

14. This agreement shall have no force or effect until approved by the Lieutenant-Governor in Council.

In witness whereof the corporate seal of the Commissioners has been hereunto affixed by the chairman, who has signed the same; and the company has hereto affixed its corporate seal under the hands of W. H. Beatty, vice-president of the said company, and W. B. Rankine, secretary of the said company.

Corporate seal of the Canadian
Niagara Power Company.
Signed, sealed and delivered in
the presence of 'JAMES WILSON,'
As to the signature of W. H. Beatty
and W. B. Rankine.

The Canadian Niagara Power Company,
By W. H. BEATTY,
Vice-President.
W. B. RANKINE,
Secretary.

Corporate seal of the Commissioners
for the Queen Victoria Niagara
Falls Park.

The Commissioners of the Queen Victoria
Niagara Falls Park,
By J. W. LANGMUIR,
Chairman.

Witness: JAMES WILSON,
As to signature of J. W. Langmuir.

APPENDIX D.

This agreement made this tenth day of April, one thousand nine hundred, between the Commissioners for the Queen Victoria Niagara Falls Park, acting herein on their own behalf and with the approval of the Government of the Province of Ontario, and hereinafter called the Commissioners, of the first part, and The Fort Erie Ferry Railway Company, a corporation incorporated by the Legislature of the Province of Ontario and having no other existence or powers except by virtue of the said Legislature of Ontario; and hereinafter called the Company, of the second part.

1. The expression "The Commissioners" wherever it occurs herein shall be introduced to mean not only the parties hereto of the first part, but also their successors and assigns and those who for the time being may be the Commissioners of the Queen Victoria Niagara Falls Park, or any body, minister, or other official to whom the Legislature of Ontario may appoint or require to discharge the duties or exercise the powers of the Commissioners.

2. The expression "The Company" wherever it occurs herein, shall be understood to mean the Company incorporated as hereinbefore mentioned, and its successors and assigns.

2. (a) The Company shall not be affected by any provisions in the Electric Railway Act contained, which may be at any time repealed—or be declared to be without the powers of the Legislature of Ontario; and section 9 relating to the acquisition of lands for parks; sections 18 to 26 inclusive; sections 36 to 38 inclusive, and sections 44 to 80 inclusive of the Electric Railway Act are declared to be inconsistent with the rights, powers and duties of the Company in respect of this agreement, and shall not apply thereto.

3. The expression "Chain Reserve" wherever it occurs herein shall be understood to mean the land lying along the bank of the Niagara River situate in the Townships of Bertie and Willoughby, and County of Welland, in the Province of Ontario, and extending from the Garrison Road in the Village of Fort Erie to and including lot number 22, in the second concession in the Township of Willoughby, lying between those portions of the lots, heretofore granted by Letters Patent

from the Crown, and the water's edge of the River Niagara and including the Chain Reserve proper, as hereinafter defined.

4. The expression "Chain Reserve proper" wherever it occurs herein shall be understood to mean and include the highway as originally defined, or as now, or by these presents widened and substituted in front of, or upon the lots fronting on the Niagara River, or upon which the allowance for road along the river is laid and one chain in width.

5. The expression "The Railway" wherever it occurs herein shall be understood to mean a railway to be constructed, run and operated by electric power, and no different or other power, and to be constructed and laid upon the Chain Reserve proper.

6. Whereas the Company in pursuance of the powers and subject to the conditions in the Acts of the Legislature of the Province of Ontario contained, being about to build a railway between the village of Fort Erie in the County of Welland, to a point in or near the village of Chippewa, in the said County of Welland, the power of locating the same not being exercisable until the Company has obtained the approval of the Lieutenant-Governor in Council to the construction of the said railway, and, in order to obtain such approval, the Company has applied to the Commissioners to secure the approval of the Government of Ontario, for the right of occupation of some parts of the Chain Reserve to construct the said railway thereon, as part of the railway to extend between the village of Fort Erie and the village of Chippewa.

7. And the Commissioners, acting on behalf of the Government of Ontario, with its approval, are prepared to license such occupation for the purposes aforesaid, upon the terms in this agreement mentioned and set forth.

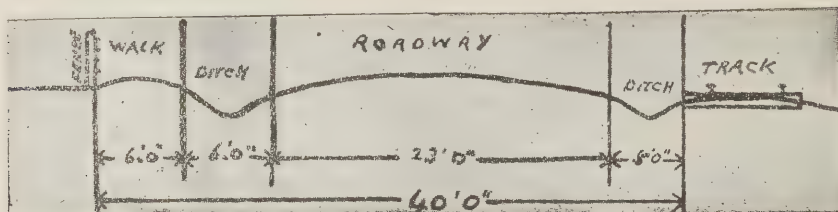
8. And whereas the provisions and conditions hereinafter set forth as agreed upon between the parties, some of which modify or change some of the provisions of Acts of the Legislature of the Province of Ontario, and together with other stipulations and conditions herein contained, will require the passing of an Act of the Legislature to confirm and declare the legality of this agreement as hereby agreed upon, or as the Legislature may deem proper to require, order, or declare.

9. And whereas the improvement and maintenance of the bank of the River Niagara between the above limits, so that the same shall be preserved against the wash of the river, and the preservation and continuance of highway facilities over the Chain Reserve, are among the considerations moving the Commissioners towards the making and entering into this agreement.

10. This agreement witnesseth and it is hereby agreed by the parties hereto, that between the point of commencement of the railway in the village of Fort Erie, viz :—to Slater's Point on the Niagara River, being in front of lot number twenty-two of the broken front of the Township of Willoughby, in the County of Welland aforesaid, the railway shall be laid on the east or river side of the Chain Reserve proper, on such line as the Commissioner of Public Works shall determine; and for that purpose shall be allowed 26 feet in width thereof, subject to the uses hereinafter specified, and measuring from the tracks of the railway on the west as the location of the railway is above defined. The space for unobstructed highway traffic shall not at any time during the continuance and existence of this agreement, or at any point, be less than 40 feet in width west of the western berm of the railway, except where lessened in the discretion of the Commissioner of Public Works as hereinafter provided, so that the common and public use for highways may pass freely over and along the highway as heretofore, between the farms and private lands on the one hand, and the railway on the other, subject to rights of passing over the railway, as by law, or as hereinafter specified.

11. The company in respect of the said highway within the width of 40 feet, shall grade, shape and roll the same to a hard finish for the entire distance

between the point of beginning of the railway at Fort Erie to Slater's Point on lot number twenty-two as and for a turnpike road, according to the cross-section shown herewith, providing sufficient cross-drainage of a permanent character, and providing all necessary bridges of the full width of the road as in the cross-section shown, namely, 23 feet width in clear :



11. (a) Between the northern boundary of the Village of Bridgeburg and Slater's Point, with the consent of the Commissioner of Public Works, at certain points by reason of circumstances of special difficulty, the normal width of 40 feet for highway as above provided may be lessened, and whatever land may be required to secure such width of 40 feet at any time during the continuance and existence of this agreement west of the western berm of the railway, excepting the special provision between the point of commencement in the Village of Fort Erie to the northern boundary of the Village of Bridgeburg, shall, if the same form any part of the land of proprietors (other than the Commissioners) be procured by the company, by or under any powers which are exerciseable by this agreement, as confirmed by Act of the Legislature. Between the point of commencement and the northern boundary of the Village of Bridgeburg, the company shall not be required to expropriate land for widening the highway to the full width of 40 feet as hereinbefore stipulated.

12. Any land which may be required in order to make and maintain the highway of the full width above specified and defined, or wherever any land is required for such highway or railway, other than by the grant by the commissioners by these presents made, such land shall by such requirement become dedicated for use for highway purposes, or for railway purposes, as the case may be, in accordance with these presents, but the title thereof, if not so already, shall be made to the commissioners as and for the public uses of the Province, but subject to highway uses:

Fences, including gates, shall be erected by the company along the division or boundary line of the highway and the land of the proprietor, where land shall have been taken from the proprietor for the purpose of widening highway, within two months from the time of such taking, unless the proprietor shall by writing extend such time, such fences shall be of the same style as are upon and exist at the time of such taking, or the same fences shall be moved and re-erected, if such removal, including the gates, can be removed satisfactorily, and made not less good than previously to the taking as aforesaid.

13. The highway is now located or as may be placed on lands acquired for its improvement, including the part occupied by the railway, notwithstanding in whom the title to the soil and freehold may be vested, shall be under no control other than that of the municipalities within which its several parts are situate, in accordance with the provisions of the Municipal Act, except as by these presents varied.

14. Wherever there is or may be a public highway from the Chain Reserve proper to the water's edge of the Niagara River, the same shall continue as such and shall be kept open, maintained and repaired by the company during the existence of this agreement.

15. The railway tracks shall be subject to free passage over the same for highway purposes, and to the waters of the river for domestic purposes or watering stock, where such uses shall not trespass upon any private right: and all persons using the highway upon which the railway is laid, or adjacent, shall be at liberty to travel upon any portion of the highway occupied by the railway, provided that the running of the railway carriages or other conveyances of the company are not unduly impeded or interfered with in such running; and in all cases any carriage or other vehicle on the railway track shall immediately, by leaving the track, give place to the railway carriages or other conveyances of the company.

16. The rights of the company hereby granted or conferred, shall be subject to the exercise by the Government, of grants of passing over the railway, and granting access to the lands or water lots of Ontario along the bank, aforesaid, or bed of the Niagara River, for any purposes whatever; the rights of the company hereby granted or conferred shall also be subject to any grants, public rights, or private rights which may have been heretofore granted by the Dominion or any Provincial Government.

17. And this agreement further witnesseth as follows, that is to say, that for and in consideration of the matters hereinbefore contained, and the due execution by the company of the works thereby agreed by the company to be constructed and the lands to be acquired, and also of the rentals hereinafter reserved, and other provisions herein contained, the Commissioners do hereby license and permit the company to construct a first-class electric railway with single or double tracks over and upon the Chain Reserve proper, from a point in the Village of Fort Erie aforesaid at the steamer landing (nearly opposite to Forsyth Street) being in front of the Chain Reserve proper, thence along the Chain Reserve proper to that part of lot number twenty-two in the broken front of the said Township of Willoughby, in accordance with the provisoes, conditions, agreements, and recitals, in this agreement contained.

18. The said railway is to be four feet, eight and a half inches gauge, and is to be laid with steel rails of not less than 45 pounds to the lineal yard, fastened with fish plates, the formation, ballast, bridges and all other structures to be approved of by the Commissioner of Public Works for the Province of Ontario; for the purpose of electric light or electric power being used by consumers, the company shall have power to place wires upon the poles of the company used for transmission of the electric power required to operate the railway.

19. The company shall not erect any buildings or sheds upon the Chain Reserve without special permission of the Commissioners and shall not carry any work thereon that will in any way disfigure the Chain Reserve or River bank, of which works, whether disfiguring or not, the Commissioners are to be sole judges.

20. Nor shall the company encroach upon any part of the Chain Reserve proper with the object or for the purpose of constructing or building the railway or any part thereof upon the Chain Reserve proper, nor any part thereof until the formation and construction of the highway of forty feet in width, in accordance with the profile thereof, and the bridges of such highway shall have been completed to the satisfaction of the Commissioner of Public Works and ready for public use, and the acquisition of the land, which may have to be acquired for the width provided under this agreement, shall have been validly acquired and vested in the Commissioners as herein provided.

21. But so soon as the highway shall have been completed in accordance with the provisions of the next preceding paragraph, the company may commence the construction of the said railway whenever the plans and specifications thereof are approved in accordance with paragraph 35 of this agreement, but neither such approval, nor any other matter in this agreement contained is to affect the

observance by the company of all the provisions of the laws of Ontario, in so far as the same are applicable by virtue of any of the Acts of the Legislature of Ontario affecting the said railway.

The Commissioner of Public Works with a view to enable the building of the railway being expedited may define portions of the railway (the location and specifications whereof having been duly approved), the construction of which may be commenced before the whole of the highway has been completed, provided that contiguous to such defined portions of the railway, the land, if any required for widening the highway has been obtained, and that the public use of the highway contiguous to such defined portions of the railway shall not be obstructed or impaired.

22. The railway shall not be constructed, operated or worked upon the Chain Reserve proper, or its traffic thereon arranged so as to impede or incommode the public use of any street, highway, or public place as little as possible, and so as not to be a nuisance thereto, nor to interfere with the free access to any house or other building erected in the vicinity of the same, nor to endanger the same.

23. The license hereby granted is for the term of twenty-one years, commencing with the first day of January, nineteen hundred and one, the company paying therefor to the Commissioners the clear yearly rental of (\$1,000) one thousand dollars during the first seven years (the rent to be computed from the first day of January, 1901. The rental for the eighth, ninth and tenth years of the term to be twelve hundred dollars for each year, the rent for the eleventh to the fifteenth years of the term inclusive to be fifteen hundred dollars for each of the said five years, and the rent for the sixteenth to the twenty-first year of the term inclusive to be two thousand dollars for each of the said six years. The said rentals to be paid in four equal quarterly instalments, on the first day of the months of April, July, October and January, in each and every year; the first payment shall be due and payable on the first day of April 1901; and all such payments shall be made to the Commissioners quarterly as aforesaid, whether the railway be completed or not.

24. The rent shall be paid, although the company may not by virtue of this agreement be able to exercise the rights and powers to construct and operate the said railway, it being understood that the Commissioners do not guarantee the rights, interests, and franchises hereby conveyed to the Company, and do not covenant for the quiet enjoyment thereof, except as against the acts of the Commissioners and their successors, and any one claiming by, through or under them.

25. At the end of the term of twenty-one years, to be computed from the first day of January, 1901, the said term shall be renewable on the request by the Company for a further period of twenty-one years as may be agreed upon, or as hereinafter provided.

26. At the end of the said first term or period of twenty-one years, the Commissioners shall demand from the Company for the further period of twenty-one years the payment of a greater clear annual sum than the sum of two thousand dollars as rental for each year of the said further or second term or period of twenty-one years, then if the parties hereto cannot agree as to the same, the amount to be paid for such further period, not less than the amount of two thousand dollars for rental for each year of such further period, shall be ascertained by three arbitrators or a majority of them, one of whom shall be named and appointed by the Commissioners, another by the Company (the parties hereto of the second part) and the third by the Chief Justice or senior presiding Judge of the Provincial Court of ultimate appellate jurisdiction for Ontario. The proceedings of and before such arbitrators shall be subject to the provisions of law

relating to "References by consent out of Court" contained in the Revised Statute of Ontario 1897, Chapter 62, respecting arbitration and references. Either party to such arbitration may appeal in accordance with the provisions of the aforesaid Revised Statute respecting arbitration and references.

27. If the Company desire to renew for such further period of twenty-one years, notice of such desire to renew shall be given by the Company to the Commissioners in writing at least twelve months before the expiration of the first term or period of twenty-one years.

28. If at the end of the said first period of twenty-one years, the Company decline or are unwilling to renew, or at the end of the second period of twenty-one years, if the Company to continue to hold for such second period, the Company shall be duly compensated by the Commissioners for their railway machinery and other works between the points over which the same is licensed to be constructed by virtue of this agreement and being in and upon the lands under this agreement licenses including the equipment, but not in respect of any franchises for holding or operating the same, such compensation to be fixed by mutual agreement, or in case of difference by arbitration as in paragraph 26 of this agreement, but the failure before the expiration of any such term to fix such compensation in manner aforesaid, or to pay before such expiration, the amount of compensation so fixed, shall not entitle the Company to retain possession meanwhile of the said railway, equipment, machinery and works, by this agreement to be constructed or operated, but the same shall nevertheless and notwithstanding that the Commissioners may have taken possession thereof, remain subject to such liens and charges save as to possession as aforesaid, as may exist in favor of bond-holders or debenture holders of the Company, and the Company shall retain a lien or charge thereon, save as to possessions as aforesaid, for compensation of their railway equipment, machinery and works to be agreed upon as aforesaid or so to be awarded to them, provided however, that all such liens and charges shall not exceed the amount that may be agreed upon or may be awarded for such compensation as aforesaid.

29. The compensation to be made to the Company in respect to the matters contained in the next preceding paragraph of this agreement, according to its provisions under the contingencies therein specified, shall include the prices paid to the proprietors of the lands to be acquired to build the railway, and to restore or widen the Highway, which the Company will have to acquire, and which the Commissioners do not now hold, and also the amount actually paid for grading and making the Highway and its bridges, in accordance with the provisions and specifications contained in paragraph 11 of this agreement.

30. The particulars of the prices paid for land, and the amount paid for making the Highway and its bridges shall be furnished to the Commissioners within six months after the same shall have been paid by the company.

For all railway equipment, machinery and works provided, and the amount expended during the continuance of this agreement, and its term of extension if extended under its provisions and which has been expended in each year, the Company shall annually furnish to the Commissioners particulars of such expenditure, and if not furnished within one year after expenditure, such expenditure shall not form an item or outlay for which the Company at the expiration of this agreement or the extension thereunder shall be compensated, but no interest on any of the foregoing expenditures or outlays shall be claimable by the Company or recoverable as part of the compensation to be paid or allowed, and the valuation of the Railway and works done, and equipment, shall be upon the condition of such Railway and Works and their actual value at the expiration of this agreement.

31. The rents hereby agreed to be paid are hereby declared to be and shall be the first and preferential charge upon the railway and works, and the Company shall not create any lien, charge or encumbrance upon the railway or works, or any of them by bond, debenture mortgage or otherwise, nor suffer any mechanic's lien to be created, which will interfere with or prevent the Commissioners from procuring payment of the rent hereby reserved, or any part thereof, and no simple contract creditor or any other creditor of the Company is to have any claim against the railway or works, or any part thereof, in priority to the claim of the Commissioners for rent.

32. Provided always that if any of the rent, whether payable under paragraph 23 of this agreement, or in respect of the renewal term in the paragraph subsequent and supplementary thereto, shall be in arrear for three months, whether legally demanded or not, the Commissioner, or if not then an existing Corporation, the Government of the Province of Ontario may enter into and upon the Railway or any part thereof in the name of the whole, and thereupon this agreement shall terminate and the remainder of the term then current shall terminate as well as the renewal thereof, which under this agreement may be claimed.

33. In respect of all rights and authorities which the Commissioners by this agreement have conferred or have agreed to confer upon the Company to exercise in and about the execution of the works to be constructed, and operating and working the same, or of all other matters of any kind whatever herein agreed upon, the company will indemnify the Commissioners in respect of the exercise of said rights by the Company, or of any acts done by the Company in pursuance of any of the matters herein contained, and will hold the Commissioners free from any liability to any person or persons whomsoever.

34. AND PROVIDED that should the Title of the Commissioners, or of the Crown, to any portion or portions of the lands hereby licenses to be occupied by the Company found to be defective, neither the Company nor its successors or assigns shall have any claim in respect thereof by virtue of anything contained in these presents.

35. The Company shall not commence the construction of the Highway or the Railway or any work thereunto appertaining, until it has submitted to the Lieutenant-Governor-in-Council plans of the location of such Highway, and of the profile thereof, as such Highway is proposed to be widened and of all the intended works and bridges thereunto appertaining, and the approval of the Lieutenant-Governor-in-Council obtained, nor until the plans and specifications of the Railway have been approved by the Lieutenant-Governor-in-Council.

36. The construction, widening and grading of the highway shall be commenced within two years, and the railway within three years, and the whole completed within five years from and after the date of this agreement, and if the said works are not commenced and completed within said times, then the powers in this agreement, provided and granted shall cease and be null and void.

37. The Company covenants, promises and agrees with the Commissioners to carry into effect, observe, perform, and fulfil all the provisions and stipulations in these presents contained, and to be carried into effect, observed, performed and fulfilled by the Company.

38. This agreement shall have no force or effect until confirmed by an Act of the Legislature of the Province of Ontario.

In witness whereof the corporate seal of the Commissioners has been hereto affixed by the Chairman who has signed this agreement and duly authorized for all purposes hereof by resolution of the Board of Commissioners duly passed on the eleventh day of April, 1900, and the company acting by and through its

President and Secretary duly authorized for all purposes hereof by resolution of the Board of Directors of the said Company duly passed on the ninth day of April, 1900, has hereunto affixed its Corporate Seal under the hands of the President and Secretary.

Fort Erie Ferry Railway Company	(Sgd.)	W. H. DAVIS,
Corporate Seal.	(Sgd.)	President.
		WM. WHARTON,
		Secretary.

Signed, sealed and delivered by the President
and Secretary of the Fort Erie Ferry
Railway Company in presence of
JAMES WILSON.

The Commissioners of the Queen
Victoria Niagara Falls Park.

The Queen Victoria Niagara Falls Park
Corporate Seal.

J. W. LANGMUIR,
Chairman.

APPENDIX C.

The Ontario Power Company of Niagara Falls, agreement of April 11th, 1900, with the Commissioners for the Queen Victoria Niagara Falls Park. Statutes of Canada: 1887, chapter 120; 1891, chapter 126; 1893, chapter 89; 1899, chapter 105. Approved by the Lieutenant-Governor in Council, 1900.

This agreement made this eleventh day of April, 1900, between the Commissioners of the Queen Victoria Niagara Falls Park, acting herein on their own behalf and with the approval of the Government of the Province of Ontario, and hereinafter called the "Commissioners" of the first part, and, The Ontario Power Company of Niagara Falls incorporated by the Parliament of Canada under and by virtue of Act 1887, 50-51 Victoria, chapter 120; Act 1891, 54-55 Victoria, chapter 126; Act 1893, 56 Victoria, chapter 89; Act 1899, 62-63 Victoria, chapter 105, hereinafter called "the Company," of the second part.

And whereas the Company are desirous to exercise the powers which by and under the hereinbefore recited Acts of the Parliament of Canada or either of them have been conferred upon the Company.

And whereas for convenience and to prevent ambiguity, it is agreed and understood by and between the said parties hereto, and is hereby declared as follows, that is to say:

- (a) The expression "the park," whenever it occurs herein, shall be understood to mean the park proper, namely the Queen Victoria Niagara Falls Park south of its original boundary in front of the Clifton House and running easterly to Niagara River.
- (b) The expression "The Commissioners," wherever it occurs herein, shall be understood to mean not only the Commissioners of Queen Victoria Niagara Falls Park, as representing the Government of the Province of Ontario in the premises named as parties hereto of the first part, but also their successors and assigns and those who for the time being may be the Commissioners of the Queen Victoria Niagara Falls Park, or other representatives of the Government of Ontario in the premises.
- (c) The expression "the Company," whenever it occurs herein shall be understood to mean The Ontario Power Company of Niagara Falls and its successors and assigns as incorporated and described in and by the several Acts of the Parliament of Canada, hereinbefore mentioned.

And whereas in and by the said in part recited Acts of the Parliament of Canada, the Company is empowered to construct, equip, maintain and operate a canal and hydraulic tunnel from such point in the Welland River at or near its conjunction with the Niagara River, to a point or points on the west bank of the Niagara River about or south of the Whirlpool (and from a point or points in the Niagara River at or immediately south of the head of the rapids near the Welland River, to a point or points on the west bank of the Niagara River about or south of Clark Hill), with all such works, dams, and wing dams, docks, conduits, accessories and buildings as may be necessary to give full effect to the intent of the aforesaid Act of Canada 1887, 50-51 Victoria, Chap. 120, and whereby it is provided that none of the works authorized by the said Act, or the amendments thereof, shall be commenced until plans thereof have been submitted to the Minister of Railways and Canals, and his sanction thereto has been obtained.

And whereas by the said in part recited Acts it is further provided "none of the works authorized by the said chapter 120 of the Statutes of 1887 or by any other Act relating to the Company or by this Act shall be constructed within the limits of the Queen Victoria Niagara Falls Park; and none of the powers given by such Acts or either of them, shall be exercised within the limits of the said Park, except with the consent of the Lieutenant-Governor of Ontario in Council, and of the Commissioners of the said Park."

And whereas by the said in part recited Acts; section 7 Plans and Surveys, and section 8 Lands and their valuation, with other sections of *The Railway Act* — R.S.C. c. 109, in the said in part recited Acts mentioned are made applicable to the works by the said in part recited Acts authorized to be constructed or operated.

And whereas by section 27 of the first of the said in part recited Acts it is enacted:

"The Company may take and make the surveys and levels of the land upon, through, or under which, the said works are to pass or be operated, together with the map or plan thereof, and of the course and direction of the said canal or tunnel, and of the other works, and of the lands intended to be passed through or under so far as then ascertained, and also the book of reference for the works, and deposit the same as required by *The Railway Act* with respect to plans and surveys, by sections or portions less than the whole length of the said canal or tunnel authorized, and of such length as the Company, from time to time, see fit; and upon such deposit as aforesaid, of the map or plan and book of reference, of any and each of such sections or portions of the said canal, all every of the clauses of *The Railway Act* applied to, included in, or incorporated with this Act, shall apply and extend to any and each of such sections or portions of the said canal or other work authorized, as fully and effectually as if the said surveys and levels had been taken and made of the lands through, or under which the whole of the said canal and tunnel is to pass, together with the map or plan of the whole thereof and of their whole course and direction, and of the lands intended to be passed through or under and taken or affected and as if the book of reference for the whole of the said canal and tunnel had been taken, made, examined, certified, and deposited according to the said clauses of *The Railway Act* with respect to plans and surveys."

And whereas the Company pending submission to the Minister of Railways and Canals of the plans and surveys of the works authorized by the said in part recited Acts for his sanction, have submitted to the Commissioners a plan or map of such part of the Park intended to be taken, and upon, through, or under which the said works are intended to pass or be operated, and have proposed to the Commissioners terms and conditions for their consent thereto whereby the powers of the Company may be exercised within the limits of the Park and the Commis-

sioners subject to the sanction of the Minister of Railways and Canals duly obtained, and other compliances with the terms of the Acts as hereinbefore recited, being duly observed and performed; and subject always to the consent thereto of the Lieutenant-Governor of Ontario in Council, in respect of such proposals have agreed.

As these presents witness:—

1. Should the Minister of Railways and Canals, upon the submission to him of the plans of the works proposed for his sanction as hereinbefore recited, require such plans to be varied or altered in any manner which the Commissioners may deem material, then such variations or alterations will be subject to the assent or dissent of the Commissioners, and in giving assent the same may be on such conditions as may be agreed on by an agreement supplementary hereto.

2. That the plans and surveys to be submitted to the Minister of Railways and Canals above mentioned, for his sanction, shall be not only of the works of the Company within the limits of the Park, but of the course and direction of the canal to lead the waters from the Welland River, at and from some point between Chippewa and Montrose, whereby said waters may be discharged into the Niagara River.

Provided that after such sanction as aforesaid shall have been obtained, it shall not be open to the Commissioners to object that the capacity and width of the canal as may be at first defined, outside the Park or for discharge into the Niagara River, and submitted for sanction as aforesaid, may not from time to time be widened under the sanction of the Minister of Railways and Canals, with the view of increasing the supply or discharge of water by the Company—but within the Park shall not be widened beyond the limits defined in a certain plan hereinafter mentioned.

And whereas the Commissioners have consented to the construction of works and the exercise of powers by the Company within the Park, subject to the provisions and reservations as hereinbefore recited, for the considerations and upon the conditions hereinbefore and hereinafter expressed and contained or intended so to be.

Now therefore this agreement further witnesseth and it is hereby agreed by the parties to these presents, as follows, that is to say:—

3. The Commissioners hereby irrevocably license the Company, subject to the provisions and considerations herein more specifically set forth and save as hereinafter limited to construct and operate within the Park the works necessary for the purposes of the Company, and which may be particularly described as follows:—

(a) To excavate an open channel or head race through the high bank forming the western boundary of the Park for the purposes of conducting the water from the Welland River to the site of the Company's works.

(b) To construct a forebay or reservoir immediately in the line of the head race and adjoining the high bank with all necessary dams, revetment walls, penstocks, gates and all appliances for containing and regulating the flow of water.

(c) To erect a power house for the machinery needed to utilize the head of water available at this point, and in which to generate the electric or pneumatic power required, said power house to be located within the limits as shewn on the map hereto attached.

(d) To make an open tail race from the power house to the Niagara River.

(e) To construct such other works as may be necessary for making the power plant complete in all its details.

THE WORKS ABOVE DESCRIBED MAY BE KNOWN AND DISTINGUISHED AS THE
FIRST DEVELOPMENT.

4. All the works to be done and executed by the Company in order to carry out the work of this first development, and the manner in which the same may from time to time be proposed to be performed or varied, shall before being commenced be submitted by the Company to the Commissioners, accompanied by suitable plans, profiles, specifications, and elevations as the case may require, and the scenic features thereof shall be approved by the Commissioners in writing. This approval shall in no wise relieve the Company from responsibility for the stability and effectiveness of its works, but it is intended to secure as far as possible a degree of harmony in the outline and treatment compatible with the location and with the works in a public Park. The works to which such approval may be given are the following:—

(a) The slopes of the cuttings and embankments for the canal and forebay, together with the precautions taken to prevent overflow or flooding Park territory.

(b) The power house and means of access thereto.

(c) The tail race for spent water, with bridges to carry the Park driveways and the Niagara Falls Park and River Railway tracks over the same.

(d) The depositing of excavated and surface material within the Park area.

5. Before commencing its work in the Park, the Company shall remove all good surface soil from the area to be disturbed, and deposit the same in heaps at convenient points as the Commissioners may direct, to be used as a top dressing for embankments and slopes, as all other materials which may be taken from the excavations of the Company and authorized to be deposited within the Park.

6. Material other than the good top soil above referred to, which may be excavated from the works of the Company in the Park, shall be used for filling out into the Niagara River to a line shown on the map or plan "A" attached hereto and marked "line to which excavated material shall be deposited," and extending from the Suspension Bridge leading to Dufferin Islands northwards as far as the outlet of the tail race of the Company. Before depositing this material the Company shall first construct a substantial and efficient crib work facing, of the same general character and dimensions as that built by the park over a part of this distance, in order to protect the filling from being eroded by the action of the river, the heights, lines, slopes and levels of this filling to be defined by the Commissioners.

7. Any excess of waste or refuse materials taken from the excavations of the head race, forebay, tail race and power house not required to complete the filling into the river above mentioned, may be used in raising the levels of the grounds to the south of the tail race to such an extent of ground and to such levels and slopes as the Commissioners may determine—all such filling shall be brought to its proper grade and covered over with the good surface soil previously stripped off as described, and finished ready for seeding down or planting. Should there be any materials in excess of what is needed for the embankments of the forebay or for the above mentioned purposes it shall be taken away by the Company and deposited outside the Park.

8. For the purposes of construction and to remove or receive supplies of materials and machinery, the Company may build, subject to the approval of the Commissioners, tramways, and such other appliances and structures as may be necessary for the prosecution of the work; but these appliances are to incommode to the least possible extent the ordinary travel in the Park, and shall be removed as soon as the works for which they are required are completed.

9. The Company shall provide and construct two drive-way bridges across the tail race, at such points as the Commissioners shall determine; such bridges to be of steel, of appropriate design, not less than twenty feet width of roadway, and with five feet pathway on each of the two sides.

During construction of works, temporary wooden bridges to carry the drive-way traffic, substantial construction are to be provided and maintained by the Company where directed by the Commissioners.

10. The sides of the tail race shall be constructed in a permanent manner, and so as to secure the banks against erosion. Above high water level, the slopes shall be sodded and protected by a substantial iron railing to the approval of the Commissioners.

11. The Company undertake before commencing any works or excavation or construction within the Park limits to have actually expended upon the works of the canal or head race from the Welland River outside the Park bounds, not less than fifty thousand dollars exclusive of cost of land and work heretofore done.

Provided that should the Company before expending the said fifty thousand dollars upon their works outside the Park, desire to commence the work upon that portion of their works within the limits of the Park marked "Forebay," "embankment," and open head race from Welland River" on the plan A hereto annexed they shall be at liberty to do so upon depositing with the Commissioners the sum of fifty thousand dollars in cash as security that the Company will, after commencing such work, duly carry on the same up to and beyond the Park limit until the work done outside the Park amounts to not less than fifty thousand dollars and to be expended within two years from the time of the commencement of the work by the Company within the Park.

The said fifty thousand dollars to be deposited by the Commissioners in a chartered bank at such interest as the bank may allow; and as the work outside the Park progresses the said sum is to be returned to the Company in amounts equal to the value of the work actually done from time to time outside the Park on fortnightly certificates of an engineer approved of by the Commissioners showing the value of such actual work from time to time. But if, after commencing the said work within the Park, the Company makes default for the period of two years from the time of such commencement in duly carrying on the said work within the Park as above particularly described and shall extending the same without the Park so that the work actually done outside the Park within such period of two years amounts to fifty thousand dollars, then at the end of the said period of two years the said fifty thousand dollars deposited with the Commissioners, or so much thereof as may not have been paid over on said certificates shall be forfeited.

12. The works in the Park, when begun, shall be prosecuted vigorously, and brought to a completed state with as little delay as possible, and the Company undertake to complete all the filling up, grading, levelling, sodding and other works affecting the surface of the Park as hereinbefore provided, and to have removed all tramways and other constructions, materials or appliances used in carrying out the operations of the Company in its first development within the time provided for the completion of the works themselves.

SECOND DEVELOPMENT.

13. The Company shall further have the right at any time upon notification to such effect to the Commissioners in writing to construct works for conducting the water to be brought as hereinbefore described to the first development, by means of an open canal or head race excavated in the Park, from the power house

aforesaid to a point distant 100 feet south of the southerly line of the table rock house, and the location of which open canal as indicated on said plan marked "A" the Commissioners hereby approve, thence by an underground channel or covered forebay northwards as far as the Dufferin Cafe, and by means of penstocks from this underground channel or covered forebay to conduct the waters aforesaid to a second power house situate in the gorge below the falls, and north of the present hydraulic elevator, the whole as shown in yellow lines upon the map attached marked "A."

14. The plans of the Company shall provide for construction of works of a substantial and permanent character. The said canal shall not be greater in width at the water surface than is indicated on said plan. The works below high water level shall be built in a substantial manner, the side slopes above high water level to be neatly graded and sodded, and the whole to be of such construction as to prevent leakage that will in any way cause damage. Two steel drive-way bridges on stone abutments are to be provided by the Company to carry the Park travel over the canal at points to be defined by the Commissioners.

15. Should it be found necessary to provide means for passing floating ice from the open canal, the Company may construct an ice run as shown on plan—the sides to be walled in masonry and bridges to be provided to carry the drive-way and railway traffic in the manner and under the authority stipulated for the works of the tail race of the first development.

16. All the materials to be excavated in the construction of this open canal may have to be removed from the Park and deposited without its bounds, unless the Commissioners find that a greater or lesser quantity may be used in the Park at points convenient to the work, in which case the Company shall deposit, grade and slope the same in the manner provided for the material taken from the works of the first development.

17. The underground channel or covered forebay shall be so constructed as to permanently sustain a dead load of one and a half feet of surface soil and a moving load of 50 pounds to the square foot in addition.

18. The underground channel or covered forebay, and the penstocks or flumes are all to be made as nearly as possible water tight. Stone walls or other objectionable features shall not be exposed to view above the finished surface of the Park.

19. The power house in the gorge to be compact and designed with special reference to its position. Its architectural features, coloring and otherwise, shall be to the approval of the Commissioners, and the method of disposing of tail water overflow, ice runs, the changing of the talus and the erection of a service elevator, etc., shall be to their approval.

20. All materials required in the construction or equipment of this power house, penstocks, or flumes, etc., shall be brought on the ground and put in place in such a way as to interfere with or obstruct to the least possible extent the Park driveway leading to Table Rock.

Steam power for drilling, excavating or hauling materials or drawing machinery required in the construction of the covered forebay or penstocks shall be used in the Park as little as possible, preference being given to compressed air or electricity.

21. The Company shall carry on all the works of the second development with such expedition that the excavations and constructions which may be upon the upper level shall be completed within two years from the time of commencement, and the works in the lower level within three years, but this shall not prohibit the Company from constructing the covered forebay in three sections

and lower power house with penstock connections in several sections, with like limits as to time in each case, should it be found desirable so to do, nor from deepening the canal at any time. Excavated or refuse material taken out of the talus slope in building the power house for the second development may be distributed at some point or points below the cliff, as the Commissioners may from time to time point out, but shall not be required to be covered with the good soil.

22. The Company shall further have the right at any time, upon notification of the Commissioners in writing to such effect, to extend the power house and forebay of their first development and to widen out the tail race to the Niagara River, as indicated in dotted yellow lines on the map hereto attached marked "A." Said work of extension shall be undertaken and completed and the Park grounds left in a finished condition within the space of two years after such notification to the Commissioners.

23. All the material and machinery required in construction and equipment shall be brought on the ground in such a manner as to incommode to the least possible extent the ordinary traffic of the Park.

24. The character of the work in this extension shall correspond in all respects to those of the first development. None of the materials which may require to be excavated or removed in the execution of this extension may be deposited within the Park, but the whole, together with all debris and unused building materials brought on the ground, must be taken away and deposited without the Park bounds, unless permission is granted by the Commissioners to deposit such materials within the Park.

And this agreement further witnesseth :

25. The Commissioners, subject to the sanction of the Minister of Railways and Canals to the plans and consent of the Lieutenant-Governor of Ontario to this agreement as hereinbefore set forth, hereby signify their consent to the location of the said works within the Park and adjacent thereto, as outlined and shown in pink upon the plan or in other colored lines or explanations thereon noted and attached hereto; such map or plan being marked "A" and submitted by the Company to the Commissioners, as hereinbefore stated, and is a duplicate of so much of the map or plan of the lands intended to be taken, passed through or over within the Park, to be submitted to the Minister of Railways and Canals for his sanction. The said map or plan marked "A" is identified by the seals and signatures of the parties hereto: Provided always that the provisions of the statutes applicable to the Company with respect to crossing the line of the Niagara Falls Park and River Railway Company, as in all other matters in the said statutes contained shall be duly complied with by the Company.

26. The license hereby granted is for the term of fifty years, commencing with the First day of April, 1900, the Company paying therefor a clear yearly rental of \$15,000, payable half yearly on the First days of October and April in each year, and in addition thereto payment at the rate of the sum of \$1.00 per annum for each electrical horse-power generated, and used or sold or disposed of over ten thousand electrical horse-power up to twenty thousand electrical horse-power, and the further payment of the sum of 75 cents for each electrical horse-power generated and used and sold or disposed of over twenty thousand electrical horse-power up to thirty thousand electrical horse-power, and the further payment of the sum of fifty cents for each electrical horse-power generated and used and sold or disposed of over thirty thousand electrical horse-power: that is say, by way of example, that on generation and use and sale or disposal of thirty thousand electrical horse-power the gross rental shall be \$32,500 per annum, payable half yearly, and so on in case of further development as above provided, and that such

rates shall apply to power supplied or used either in Canada or the United States. Such additional rentals as shall be payable for such generation and sale, or other disposition as aforesaid, to the Commissioners shall be payable half yearly at the rate above specified on the First days of October and April in each year for all the power sold in the said several half-yearly periods from the day of sale; and within ten days after the said First days of October and April in each year on which such additional rentals shall be payable respectively the treasurer, or if no treasurer the head officer of the Company, shall deliver to the Commissioners a verified statement of the electrical horse-power generated and used and sold or disposed of during the preceding half year, and the books of the Company shall be open to inspection and examination by the Commissioners, or their agent for the purpose of verifying or testing the correctness of such statement; and if any question or dispute arises in respect to such return, or if any statement delivered at any time by the Company to the Commissioners of the quantity or amount of the electrical horse-power generated and used and sold or disposed of, or of the amount payable for such additional rentals, the High Court of Justice of Ontario shall have jurisdiction to hear and determine the same and to enforce the giving of the information required. The Company has paid, contemporaneously with the signing of this agreement, the sum of \$30,000, being the first two years rental in advance, (being up to 31st March, 1902).

Provided always that if any part of the said rent, whether payable under this paragraph, or in respect of the renewal term or terms in the following paragraph, shall be in arrears for three months whether legally demanded or not, the Commissioners, or if not then an existing corporation, the Government of the Province of Ontario, may re-enter on the premises, or any part thereof in the name of the whole and thereupon this agreement shall determine, and the remainder of the term then current shall terminate as well as any renewal or renewals thereof which under this agreement may be claimed.

27. If at the end of the said period of fifty years the Company desire to renew for a further period of twenty years, and shall give notice in writing to the Commissioners at least twelve months before the expiration of the fifty years period, they shall be entitled to and shall receive a further lease of such rights for the period of twenty years more at the same rental as above provided, unless the Lieutenant-Governor-in-Council shall desire a readjustment of said rent as below provided, and similarly the Company shall be entitled at their option to two further renewals of twenty years each at same rental, subject to the same qualifications, the object and intention of this stipulation being to confer upon the Company the right to an original term of fifty years at the rentals hereinbefore specified, and to three further terms of periods of twenty years each at said rentals, making one hundred and ten years in all, and the Company shall then give up, or at the expiration of the first term of fifty years, or any subsequent term of twenty years, if unrenewed in accordance with this agreement the works, premises, rights and privileges by this agreement created without any claim for compensation with liberty to the Company to remove their machinery. In case the Company desire to terminate the lease, they may do so during the first period of fifty years upon three months notice in writing to the Commissioners, or in case the Commissioners are not then an existing corporation, the Government of the Province of Ontario, payment of rent up to the time of the termination of such notice being made upon the giving of such notice. At the end of said period of fifty years the same rental as are hereby reserved shall continue to be paid by the said Company unless the Lieutenant-Governor-in-Council shall desire a readjustment of the said rent, in which case the rentals for a further period of twenty years shall be readjusted by agreement, and in the absence or failure of agree-

ment by the parties hereto then the rentals for such further term shall be ascertained by three arbitrators or a majority of them, one of whom shall be named and appointed by the Commissioners, another by the Company, and the third by the Chief Justice or senior presiding Judge of the Provincial Court of Ultimate Appellate Jurisdiction for Ontario. The proceedings of and before such arbitrators shall be subject to the provisions of the law relating to "References by consent out of Court," contained in the Revised Statutes of Ontario, 1897, chapter 62, respecting Arbitrations and References; and either party to such arbitration may appeal in accordance with the provisions of the said Revised Statute. The Lieutenant-Governor-in-Council may in the like manner for the two further periods of twenty years each require a readjustment of said rentals. In which case the same shall be determined as aforesaid and at the expiration of such two periods of twenty years each the term so limited by these presents shall determine and end in accordance with all provisions above contained whereby the Company shall then give up the works, premises, rights and privileges by this agreement granted or created without any claim for compensation, but with liberty to the Company to remove their machinery. And it is hereby further agreed that at any time not less than three years before the period at which such third renewal of twenty years shall terminate the Lieutenant-Governor-in-Council, and notice thereof to the Company given, may require the Company to continue its operations for a further period of twenty years, to commence from the termination of such third renewal, at the same rental as shall have been paid during the said third renewal period of twenty years or at a readjustment of said last mentioned rentals for such further period of twenty years by agreement, and in the absence or failure of agreement by the parties hereto, then the rentals for such further term of twenty years shall be ascertained by arbitration in manner and form and according to the provisions of arbitration hereinbefore contained, and in the event of such option being so exercised the terms and provisions of these presents shall extend and bind the parties hereto until the said period of twenty years shall have elapsed and expired, but the exercise of such option requiring such further renewal by the Lieutenant-Governor-in-Council shall not change, alter or effect the above provisions in respect of the termination of the liberties, licenses, powers and authorities, and so declared applicable at the termination of the said last mentioned or fourth renewal.

28. The Commissioners will not themselves engage in making use of the water to generate electric, pneumatic or other power except for the purposes of the Park, provided that in case the said Commissioners shall have granted or at any time may have granted to any other person or incorporation license to use the waters of the said Niagara or Welland Rivers, and by reason of failure of such person or corporation to carry on the works so licensed the said Commissioners find it necessary to forfeit said license and take over said works, this clause shall not prohibit said Commissioners from operating such works for the generation and transmission, sale or lease of electricity or power.

29. The Commissioners shall not be responsible for any damages to person or property caused by the Company in the construction or operation of its works, and the Company shall hold the Commissioners safe and harmless from liability for all damages so caused.

30. For the transmission of electricity or pneumatic power to points beyond the Park in Canada or the United States the Company shall have the right to convey the same by wires, cables, pipes or other appliances in conduits, beneath the surface of the Park at such depth and in such locations as the Commissioners may from time to time determine, including the right to cross the so-called chain reserve so far as the same is within the jurisdiction of the Commissioners at any point or points approved of by the Commissioners between Fort Erie and Niagara-

on-the-Lake, but subject to any rights which the Commissioners may have created or licensed or which may be created, without prejudice, however, to the exercise by the Company of any of its rights and powers.

31. The Company undertake to begin the works hereby authorized within two years from the date of this agreement and to have proceeded so far with the said works on or before 1 April, 1906, that they will have completed within the Park water connections (that is to say: headrace, forebay, penstocks and tail race) for the development of twenty-five thousand horse power and have actually ready for use, supply and transmission ten thousand developed electrical or pneumatic horse power by said last mentioned day, and if not then completed the Lieutenant-Governor-in-Council may declare this agreement, the liberties, licenses, powers and authorities so granted and every of them to be forfeited and void, and thenceforth after such declaration the same shall cease and determine and be utterly void and of no effect whatever.

Provided always that unless the Company has on or before the tenth day of July, 1902, completed the works capable of delivering at least fifteen thousand horse power, or unless the time for the completion of such works limited by section 2 of chapter 105, Dominion Statutes of 1899, is duly extended by the Parliament of Canada, the Lieutenant-Governor-in-Council may on and after the tenth day of July, A. D. 1902, declare this agreement and the liberties, licenses, powers and authorities hereby granted, and every of them, to be forfeited and void, and thenceforth after such declaration the same shall cease and determine and be utterly void and of no effect whatever.

Provided always that no extension of time by the Parliament of Canada shall extend or affect the time for completion under this agreement beyond the first day of April, 1906.

32. So long as this agreement is in force the Commissioners undertake and agree that the amount of rentals which may be fixed and charged for the right to use the waters of the Niagara or Welland Rivers within the Park for the purpose of generating electricity by any other Company or person shall not be at less rentals than is provided and reserved by these presents, and further, that any such Company shall be subject to the like restrictions as in paragraph 33 of this agreement. Provided, however, that notwithstanding anything in this paragraph contained the rentals so to be fixed and charged against any other Company or person may be reduced below the rentals provided and reserved by these presents so far only as such reduction may fairly and reasonably be allowed in respect of the increased cost of the construction of the canal within the Park, or of the canal and tail race or tunnel within the Park, by reason of its greater length or other ground of expense in its or their construction, whether required for supply or waste, through the Park to the point of discharge into the Niagara River in excess of the distance between the power house of the Canadian Niagara Power Company and the point of discharge into the Niagara River, such reduction not to be of an amount sufficient to give any undue advantage as against the parties of the second part except by reason of such increased cost of canal or tail race (or tunnel), or both, as the case may be.

33. The Company whenever required shall, from the electricity or pneumatic power generated under this agreement, supply the same in Canada to the extent of any quantity not less than one-half the quantity generated, at prices not to exceed the prices charged to cities, towns and consumers in the United States at similar distances from the Falls of Niagara for equal amounts of power and for similar uses, and shall, whenever required by the Lieutenant-Governor-in-Council, make a return of prices charged for such electricity or power, verified under oath by any chief officer of the Company, and if any question or dispute arises involv-

ing the non-supply or prices of electricity or power for consumption in Canada the High Court of Justice of Ontario shall have jurisdiction to hear and determine the same and enforce the facilities to be given or the prices to be charged.

34. All power developed within the limits of the Park under this agreement shall be in a form capable of transmission and use outside the Park, and shall not be used within the Park except such uses as may be convenient or necessary within the buildings of the Company for the purposes of its power development, and except such cases as may be hereafter agreed upon for railway, pumping, elevator, or other purposes within the Park. The Company may agree with the Niagara Falls Park and River Railway Company for the supply of electricity, pneumatic or other power to work the said railway, and with the Town of Niagara Falls, Ontario, and the Town of Niagara Falls South, Ontario, for the supply of power for their pumping station or stations within the Park, and may also supply electricity for any other persons within the Park.

35. If the Company should at any time or times after the completion of its plant and power house, or the first of April, 1906, whichever shall first happen, continuously neglect for the space of one year effectually to generate electricity or pneumatic power as hereby agreed by the Company, unless hindered by unavoidable accident, the Lieutenant-Governor-in-Council may then and from thenceforth declare this agreement, the liberties, licenses, powers and authorities thereby granted and every of them to be forfeited, and thenceforth the same shall cease and determine and be utterly void and of no effect whatever.

36. The rents hereby agreed to be paid are hereby declared to be the first and preferential charge upon the said works, and the Company shall not have power to create any lien, charge or encumbrance upon the said works or any of them by bond, debenture, mortgage or otherwise which would interfere with or prevent the Commissioners from procuring payment of the rent hereby reserved or any part thereof; and no simple contract creditor or other creditor of the Company shall have any claim against the said works or any part thereof in priority of the claim of the Commissioners for rent.

37. The said Company shall not amalgamate with any other corporation or company heretofore or hereafter incorporated by or under the laws of the Dominion of Canada or by or under authority of the Province of Ontario, or which shall be hereafter licensed by the said Commissioners to take and use the waters of the Niagara or Welland Rivers or both for the purpose of generation and transmission of electricity without the consent of the Lieutenant-Governor-in-Council to such amalgamation, nor shall they enter into any arrangement or agreement for that purpose with any such Company which may directly or indirectly have that effect, or which may or shall have the effect of keeping up the price or prices of said power, nor shall they enter into an agreement with any such Company for pooling the receipts of the said Company, or of any part thereof, with those of any other Company, nor which shall provide for or have the effect of establishing a common charge or schedule of charges for the use of said power or any part thereof.

38. This agreement shall have no force or effect until approved by the Lieutenant-Governor-in-Council.

In witness whereof the Board of Commissioners, acting by and through their Chairman, duly authorized for all purposes hereof, by resolution of the Board, duly passed on the 11th day of April, 1900, has affixed its corporate seal and has signed, sealed and executed the present agreement.

And the Company, acting by and through its President and Secretary, duly authorized for all purposes hereof, by resolution of the Board of Directors of the

said Company, duly passed on the 9th day of April, 1900, has hereunto affixed its corporate seal under the hand of the President and Secretary.

Received from the Ontario Power Company of Niagara Falls the sum of thirty thousand dollars (\$30,000), being the first two years' rental in advance under the above agreement.

THE COMMISSIONERS OF THE QUEEN VICTORIA
NIAGARA FALLS PARK.

SEAL OF
COMMISSIONERS.

(Sgd.)

J. W. LANGMUIR,
Chairman.

THE ONTARIO POWER COMPANY OF
NIAGARA FALLS,

SEAL OF
POWER COMPANY.

(Sgd.)

JOHN J. ALLBRIGHT,
President.

(Sgd.)

ROBERT C. BOARD,
Secretary.

The corporate seal of each of the corporations
affixed and the above signatures made and
delivery of this instrument being duly made
by the said signatories on behalf of their
respective corporations in my presence.

(Sgd.) JAMES WILSON.

ORDER-IN-COUNCIL

APPROVED BY HIS HONOR THE LIEUTENANT-GOVERNOR THE
13TH DAY OF APRIL, A.D. 1900.

Upon the recommendation of the Honorable the Attorney-General, His Honour the Lieutenant-Governor by and with the advice of the Executive Council of Ontario, has been pleased to approve, and does hereby approve of a certain agreement bearing date the 11th day of April, 1900, made between the Commissioners of the Queen Victoria Niagara Falls Park, of the First Part, and the Ontario Power Company of Niagara Falls of the second part, respecting the construction of works and exercise of powers within the Queen Victoria Niagara Falls Park.

12th April, 1900.

(Sgd.) G. W. ROSS,

Chairman.

(Sgd.) J. LONSDALE CAPREOL.

63rd VICTORIA

Statutes of Ontario

CHAPTER 15

AN ACT TO CONFIRM AN AGREEMENT BETWEEN THE COMMISSIONERS FOR THE QUEEN VICTORIA NIAGARA FALLS PARK AND THE FORT ERIE FERRY RAILWAY COMPANY AND RELATING TO THE SAID COMPANY.

Assented to 30th April, 1900.

HER MAJESTY, by and with the advice and consent of the Legislative Assembly of the Province of Ontario, enacts as follows :—

1. The Agreement between the Commissioners for the Queen Victoria Niagara Falls Park and the Fort Erie Ferry Railway Company, dated the tenth day of April, one thousand and nine hundred, a copy of which is contained in the schedule hereto, is hereby approved, ratified and confirmed and declared to be valid and binding on the parties thereto, and the Commissioners and the Company respectively may do whatever is necessary to give effect to the substance and intention of the said agreement.

2. Chapter 85 of the Acts passed in the 60th year of Her Majesty's reign, being AN ACT RESPECTING THE FORT ERIE FERRY RAILWAY COMPANY, is hereby amended by extending the time for the completion of the line of railway in the said Act specified, and as defined in the schedule hereto, to the 13th of April, 1905.

3. This Act shall go into effect on such day as the Lieutenant-Governor in Council may by proclamation appoint, and not before.

*Agreement (see pages 104-111) forms
schedule to this Act.*

Agreement
between Park
Commission
and Fort Erie
Ferry Railway
Company con-
firmed

Time for com-
pletion of rail-
way extended.

Commence-
ment of Act,

185

FIFTEENTH ANNUAL REPORT

OF THE

COMMISSIONERS

FOR THE

QUEEN VICTORIA NIAGARA FALLS PARK.

PRINTED BY ORDER OF
THE LEGISLATIVE ASSEMBLY OF ONTARIO.



TORONTO:

PRINTED AND PUBLISHED BY L. K. CAMERON.

Printer to the King's Most Excellent Majesty.

1901.



WARWICK BROS & RUTTER, PRINTERS.
T O R O N T O.

FIFTEENTH ANNUAL REPORT

OF THE

COMMISSIONERS

FOR THE

QUEEN VICTORIA NIAGARA FALLS PARK.

To the Honorable SIR OLIVER MOWAT, P.C., G.C.M.G.

Lieutenant-Governor of the Province of Ontario.

MAY IT PLEASE YOUR HONOR:—

The Commissioners for the Queen Victoria Niagara Falls Park beg to submit their Fifteenth Annual Report, accompanied by the usual statement of the receipts and expenditures, being for the year ended 31st December, 1900.

In their last annual report the Commissioners made reference to the new agreement which has been entered into with the Canadian Niagara Power Company and to the change in location of their proposed works; the abandonment of the monopoly in the waters of the Park; the new scale of rentals imposed, and the extension of time granted for completing the initial development required by the terms of the original agreement of April, 1892. The Commissioners regret to say that with the exception of the test core drilling referred to in last report, no active steps have been taken to carry out the works indicated in the agreement.

Reference was also made in last year's report to franchise granted to the Fort Erie Railway Company for the construction of an electric railway from the present southern terminus of the Niagara Falls Park and River Railway at Slater's Dock, along the margin of the Niagara River to Fort Erie. During the summer months a corps of engineers have been at work locating the road, but up to the present time works of construction have not been actively carried on.

The Ontario Power Company, whose agreement with the Commissioners made on April 11th, 1900, was embodied in last year's report, and under the terms of which the waters of the Welland River are to be brought to the park and utilized for the generating of electrical energy, have made application to the Commissioners to have their agreement amended in certain particulars, namely: (a) that the construction of their proposed works, known and described as the second development, may be carried out in advance of the works set out in the agreement as the first development; (b) that the original plan for conducting the Welland River waters into the park by means of an

open canal through the high bluff, comprising the western boundary of the park, should be changed, and a system of underground tunnels substituted; (c) that the level of the surface of the water in the open canal leading to the point of the second development and the forebay should be higher than was at first provided for, and at some points made of greater width; and (d) that the forebay, which under the original agreement was to be covered over with soil and treated as a part of the developed park area, should be left an open water way.

These several changes are now under consideration, and the Commissioners hope to arrive at a decision which will safeguard the interests of the park and at the same time conform as much as possible to the desires of the company, so as to ensure the carrying out of this work on a scale much more extensive than was at first contemplated.

Notwithstanding the many petitions which have been made to the Government of Canada from time to time by municipal, historical and other representative bodies for the transfer to the Commissioners of the battlefield and ruins of old Fort Erie, nothing has as yet been accomplished, and this historic spot which should be sacred to every patriotic Canadian is still left uncared for. The Commissioners have again offered to take over these grounds and preserve them in a worthy manner, and as part of the Park System.

The field operations of the Commissioners are shown in detail in the accompanying report of the superintendent of the park. The usual works of maintenance for the several portions of the park system have been carried on, and a number of improvements which were greatly needed and which will add very materially to the comfort and convenience of visitors, have been made.

By the active co-operation of Wm. Gibson, Esq., late M. P. for Lincoln, four heavy siege guns were secured from the Department of Militia and Defence and mounted on Queenston Heights near Brock's Monument. They form a very appropriate addition to this historic spot.

The following statement will show the receipts and expenditure for the year :

FINANCIAL STATEMENT FOR 1900.

RECEIPTS.

Rental from Canadian Niagara Power Co.....	\$15,000 00	
“ Ontario Power Co. (2 yrs.).....	30,000 00	
“ N. F. P. & R. Ry. Co.....	10,000 00	
“ Zybach & Co.....	8,200 00	
“ Wharfage Privileges.....	312 00	
		\$63,512 00
Receipts from Tolls over Islands and at Brock's Monument.....	\$2,025 10	
Receipts from sundries and sales of materials.....	174 06	
“ from Imperial Bank, interest.....	290 47	
		\$2,489 63
		<u>\$66,001 63</u>

EXPENDITURE.

Paid Imperial Bank, overdraft for 1899.....	\$6,790 75
---	------------

Capital Account

Permanent improvements, including cost of materials.....	\$4,913 03	
Wages of mechanics, laborers, etc.....	4,320 24	
		<u>9,233 27</u>

Maintenance Account.

Salaries, wages, including laborers, teams, etc.....	12,283 11	
Cost of materials.....	3,515 03	
Office expenses.....	244 35	
Commissioners' expenses.....	600 21	
Miscellaneous.....	382 45	
		17,025 15
Interest on overdrafts.....	86 15	
Coupon interest and charges on bonds.....	24,133 27	
		24,219 42
Cash in Imperial Bank, Dec. 31st. 1900.....		8,733 04
		\$66,001 63

The whole respectfully submitted.

J. W. LANGMUIR, Chairman.

GEORGE H. WILKES.

JAS. BAMPFIELD.

A. W. CAMPBELL.

APPENDIX "A".

REPORT OF THE PARK SUPERINTENDENT TO THE COMMISSIONERS FOR THE QUEEN VICTORIA
NIAGARA FALLS PARK.

GENTLEMEN,—I beg to submit the following report on the works performed, under the direction of your Board, in connection with the Queen Victoria Niagara Falls Park System, during the year ended 31st December, 1900.

GENERAL MAINTENANCE.

All the works usually grouped under the head of maintenance, which includes the care and repair of roadways, paths, bridges, buildings and all other appliances presently in use for the comfort and convenience of visitors, as well as the preservation of all lawns, shrubbery and protective works of various kinds, have received the most careful attention throughout the year, and every effort has been made to minister to the enjoyment of the many thousands who have visited the various portions of the park system.

As the work of reclaiming and improving the park territory is being carried on at several points simultaneously, the expenditure of labor required for maintenance must of necessity increase somewhat in proportion to the area brought under treatment; and this year a considerably larger amount has been expended upon this item. The results, however, which have been already attained have been so much appreciated by visitors, that doubtless the policy of development will be continued until a much greater area, at each of the chief points of interest, will be opened up and made attractive.

During the past season the visitors to the park have been more numerous than at any time since 1893, the year of the World's Fair at Chicago; and on several occasions the facilities available for their accommodation were taxed to the utmost. Notwithstanding the largely increased numbers, and the consequent congestion of travel at times, especially in the picnic grounds, good order has been maintained throughout, and the park ordinances have been duly enforced.

The play grounds have been maintained in good condition throughout the year, and skating, baseball, lawn tennis and football have each been indulged in at the proper season. In the hot weather a great many of the boys from the town and vicinity enjoyed

bathing in the gravelpit, which was kept flooded for the purpose ; owing, however, to the shallowness of the water, many of the older lads have resorted to the river below the Maid of the Mist Landing, climbing down and up the steep bank at the few points where the cliffs can be scaled. As this locality is dangerous, owing to the near proximity of the Whirlpool Rapids, it is hoped that ere long suitable facilities for bathing, which will be safe, and at the same time attractive to old and young alike, may be provided.

Heavy repairs to the two carriage suspension bridges leading to the Dufferin Islands were found necessary, many of the chord timbers, corbels and needle beams requiring renewal, in addition to the usual repairs to floor planking.

As noted in last year's report, these bridges are not at all suited for the work required of them, and their stability is at the best an uncertain quantity. It is hoped that ere long the example of the park on the American side in respect to the Goat Island bridge may be followed, and permanent and roomy constructions of stone or concrete, or of steel, may replace the present narrow and antiquated structures.

NEW WORKS.

Many new works of a permanent character have been undertaken during the year in furtherance of the policy of development before referred to. The carrying out of these improvements has added greatly to the attractiveness of the park, and have given increased facilities to visitors for the quiet enjoyment of the many points of beauty which environ the great cataract.

Near the Mowat Gate, at the northern entrance to the park proper, a large area, which has hitherto been surfaced with sod, but on account of the shallowness of the soil always dried out on the approach of hot weather, received a heavy covering of good earth, and was set out with choice shrubbery. Part of this ground near the tracks of the Electric Railway required grading, and as the loose material of which it was composed was very porous and the bed rock close at hand, the whole was removed and good soil substituted, and the surface brought to an even grade. West of the driveway there remains a considerable area which will require to be taken in hand when circumstances will permit.

The picnic grounds were improved by the substitution of a large stone drinking fountain in place of the small rustic one put up in 1887. The new fountain is of red Credit Valley sandstone, of imposing appearance, supplied by an abundance of good spring water, and is covered by a lofty rustic arbor of cedar and bark work to afford shade and rest to those desirous of using the water.

The basement of the large pavillion in the picnic grounds was also improved by putting in a cement floor and an outside entrance, and by the addition of a new and much larger furnace, to provide hot water in abundance for the use of picnic parties.

The water supply for general park purposes was extended, and improved facilities provided for sprinkling the driveways. The system of drainage was also extended and improved.

South of the Table Rock House and as far as the electric railway power house the driveway was covered with macadam and rolled to a hard finish. And a section of the front walk along the edge of the cliff north of Table Rock was similarly treated, to test the efficacy of this provision against the uncomfortable effects of the spray.

At the Dufferin Islands extensive changes have been made in order to open up and make accessible to visitors the many charming scenic effects to be had in this portion of the park. The foot suspension bridge, which was constructed by the late Mr. Street for his private access to the Islands, and which had been in use for about thirty-five years, was found to be quite beyond repair ; and as funds were not available for a new and permanent structure, the old one was taken away and the piers and foundation in the river removed to below water level. A new path was constructed completing the circuit of the Islands, and three new bridges of rustic work, together with two new and imposing arbors of cedar and bark construction have been provided. At the Cascades, where a most delightful view is had of the waterscape, the platform has been extended so as to afford more room to enjoy the view, and it is intended to enlarge the present shelter in time for next season's travel. At several points on "Riverside Ramble" the luxuriant growth of vines has been taken advantage of to afford shade, by training them

over open trellis work of cedar built over the pathway. By this means, in a year or two, several hundred feet of the "Ramble" will be well sheltered from the rays of the sun.

At the Whirlpool Point a nice rustic arbor has been built, and much of the ground between the point and the Electric Railway station has been planted with trees and shrubs.

Niagara Glen has also been provided with a shelter in the form of an arbor of cedar and bark near the end of the main path, and overlooking the river. A new walk was also opened up, leaving the main path a short distance below the stairway down the cliff, and following the valley of the Second Channel of the river to a junction with the North Riverside Path, at a point about a quarter of a mile down stream from the new arbor. This new path leads through the romantic and hitherto unexplored valley which geologists pronounce to have been the lesser of the two channels into which the river was divided when the falls had only reached this point in its long drawn out history. This little valley possesses rare forms of natural beauty and a ramble through it will well repay the visitor.

At Queenston Heights a number of improvements have been made. The shelter and lunch counter were removed back from the approach to the monument, and a new refectory added. A new arbor was built on the edge of the cliff at the north east angle of the Heights, where a magnificent panorama is afforded of the river valley, the villages of Queenston and Lewiston, and with the suspension bridge spanning the stream immediately underneath.

Owing to the action of the elements much of the interior plastering of the chambers about the base of Brock's Monument was found to be in bad repair, and it was all chiselled off and renewed in portland cement. The lining of the shaft will, in many places, require to be similarly treated next year.

Four twenty-four pounder seige guns of date 1807. having been obtained by the Commissioners from the Department of Militia and Defence, suitable carriages were prepared, foundations of concrete capped with heavy bearing stones were constructed, and the guns, after being properly cleaned, were mounted on the heights near the monument. Two facing the north and two the east. These massive guns form an interesting and appropriate addition to the famous battle-ground.

The necessity for providing a suitable ball ground for the use of large picnic parties was more apparent this year, and a convenient location near the Earthwork Redoubts was levelled and prepared for sowing in the spring.

The grounds about the Redoubts was also opened up, and much thinning out done, making this part of the Park more attractive than heretofore.

In addition to the more important works above referred to, many of minor moment were carried out, but each in its place of value to the general scheme of improvement. At the park office a steel flag staff, 100 feet high, was erected, and Dominion Ensigns, large and small, provided for general and special use. The hydraulic lift, for the use of visitors going under the Falls, and which is now under lease, was provided with a stairway and enclosed in such a manner that the metal work can be kept dry at all times and painted when desired.

In the spring a large stock of rare deciduous trees and evergreens were planted out and the lawns liberally planted with early flowering bulbs. The increasing popularity of the park as a place of resort for residents of the county, who drive in from a distance, necessitated increased accommodation for horses and carriages, and a space has been set apart on which to erect a drive shed and tie up ground. This space has been drained and stoned, and the drive shed will be erected early in the season and in time for next year's travel.

The whole respectfully submitted.

JAMES WILSON,
Superintendent.

Niagara Falls, January, 1901.

I EDWARD VII

Statutes of Ontario

CHAPTER 86

AN ACT RESPECTING THE NIAGARA FALLS PARK AND RIVER RAILWAY COMPANY.

Assented to 15th April, 1901.

WHEREAS The Niagara Falls Park and River Railway Company has represented that in and by an Act of the Parliament of the Dominion of Canada passed in the 63rd and 64th years of the reign of Her late Majesty Queen Victoria and chaptered 54, the said the Niagara Falls Park and River railway company was (together with certain corporations of Dominion creation) authorized and empowered to sell its assets, business undertaking, property, liabilities, name, franchise and good will to the Buffalo Railway Company, and the Buffalo Railway Company was authorized and empowered to purchase the same, reserving, however, the control and jurisdiction of the Commissioners for the Queen Victoria Niagara Falls Park and of the Legislature of Ontario in all respects over the said The Niagara Falls Park and River Railway Company; and whereas the Niagara Falls Park and River Railway Company has by its petition prayed for confirmatory legislation in order to remove any possible constitutional doubt or question; and that it be enacted as hereinafter set forth, and it is expedient to grant the prayer of the said petition;

Therefore His Majesty, by and with the advice and consent of the Legislative Assembly of the Province of Ontario, enacts as follows :—

1. The Niagara Falls Park and River Railway Company may sell its assets, business undertaking, property liabilities, name, franchise and good will to the Buffalo Railway Company, and the Buffalo Railway Company (hereinafter called "the purchasing company") may purchase the same and may pay therefor in such manner as may be agreed upon, and the said two companies may enter into agreements of sale and purchase and do all acts necessary or convenient for the purposes of such sale and purchase, and the execution of any such agreement shall ipso facto vest in the Purchasing Company the interest and title in and to the property the subject matter of the agreement, and the business, property, real and personal and all rights and incidents appurtenant thereto and

Preamble

Authority to
sell railway,
etc.

all other things belonging to the Niagara Falls Park and River Railway Company shall be taken and deemed to be transferred to and vested in the purchasing company without further act or deed.

55 V. c 96, S.
4. sub-sec. 9,
amended

2. Sub-section 9 of section 4 of the Act passed in the 55th year of the reign of Her late Majesty Queen Victoria and chaptered 96 is hereby amended by striking out the words "to work and light the said railway" in the 25th and 26th lines of the said sub-section and by substituting therefor the words "the purposes of any railway company which purchases the franchise of the Company"; and the paragraph numbered 14 of Schedule "B" to the said Statute is hereby amended by striking out the word "above" in the last line of the said paragraph and by adding to the said paragraph at the end thereof the words "of any railway company which purchases the franchise of the company."

Right of pur-
chasing com-
pany to re-
newal of fran-
chise

3. If the purchasing company desires to renew for a further period of twenty years after the further period of twenty years for which a right to renew is given in and by the said statute and the schedule thereto, it shall have the right to such further renewal upon the same terms as are set forth in the said statute and schedule with reference to the renewal thereby authorized.

Purchaser to
have an office
at Niagara
Falls.

4. The purchasing company shall have an office at or near Niagara Falls, Ontario, and service of process or legal documents may be effected upon any clerk or officer employed therein or upon the person then in charge thereof, and such service shall be good service upon and shall bind the purchasing company.

Authority of
Park Commis-
sioners not to
be impaired

5. Notwithstanding anything in this Act contained the jurisdiction and control of the Commissioners for the Queen Victoria Niagara Falls Park in respect to the matters placed under their jurisdiction and control by virtue of Chapter 96 of the Statutes of 1892 of the Legislature of Ontario and the powers of the said Legislature in respect of the Niagara Falls Park and River Railway Company shall continue the same as if this Act had not been passed, and nothing in this Act contained shall vary the agreement of the 4th December, 1891. by the said Statute of 1892 ratified and confirmed except in so far as the said agreement is by this Act specifically varied.

Purchasing
company to
be subject to
Provincial and
Dominion
Statutes

6. Nothing in this Act contained shall relieve the purchasing company from the observance of the laws of Canada or Ontario as the case may be, except in so far as such laws are inconsistent with the acquisition and operation, of the said undertaking as hereby authorized.

3

SIXTEENTH ANNUAL REPORT

OF THE

COMMISSIONERS

FOR THE

QUEEN VICTORIA NIAGARA FALLS PARK

OF THE

PROVINCE OF ONTARIO

FOR

THE YEAR ENDING DECEMBER 31st

1901

PRINTED BY ORDER OF
THE LEGISLATIVE ASSEMBLY OF ONTARIO.



TORONTO:

PRINTED AND PUBLISHED BY L. K. CAMERON.

Printer to the King's Most Excellent Majesty.

1902

NIAGARA FALLS PARK.

The Hon. J. R. Stratton, M.P.P.,

Provincial Secretary Province of Ontario,
Parliament Buildings, Toronto.

Sir: I have the honor to transmit herewith for presentation to the Legislature of Ontario the Sixteenth Annual Report of the Commissioners for The Queen Victoria Niagara Falls Park, together with the Appendices thereunto attached.

I have the honor to be, sir,

Your obedient servant

J. W. LANGMUIR,
Chairman.

137

SIXTEENTH ANNUAL REPORT
OF THE
COMMISSIONERS
FOR THE
QUEEN VICTORIA NIAGARA FALLS PARK

To the Honorable Sir Oliver Mowat, P.C., K.C.M.G.,
Lieutenant-Governor of the Province of Ontario.

May it please your Honor:

The Commissioners for the Queen Victoria Niagara Falls Park beg to submit their Sixteenth Annual Report, together with the usual statement of receipts and expenditures, being for the year ended 31st December, 1901.

OBITUARY.

Before entering on a record of operations for the past year, the Commissioners desire to express their deep regret in the loss they have sustained by the death of their esteemed colleague, Mr. B. E. Charlton. During the five years that Mr. Charlton occupied a seat at the Board his matured judgment in business matters, and in public affairs generally, enabled him to give very valuable counsel to the Commission in carrying on the important public trusts which have been committed to their care.

ONTARIO POWER COMPANY.

In their Fifteenth Annual Report the Commissioners referred at length to the application made by the Ontario Power Company to have their Agreement of 11th April, 1900, amended in certain particulars, namely:

1. To provide for the carrying on of the works referred to, and described in the Agreement as the second development in advance of the works referred to therein, described as the first development—that is to say, that the waters of the Welland River should in the first instance be conducted to a forebay, immediately north of Table-rock House, and used under the high head obtained by placing the Power-house in the gorge of the River below the Falls.
2. That the waters for power purposes shall enter the Park in tunnels beneath the surface of the high bluff, west of the gravel pit, instead of by an open channel.
3. That a higher level of somewhat greater width should be given to the waters of the hydraulic canal and forebay in the Park than was at first proposed.
4. That the waters in the forebay be uncovered.

The Directors of the Power Company represented that these changes from the Agreement of April, 1900, had been strongly recommended by their Hydraulic Experts, after a scientific investigation of all the conditions governing the project. A careful examination, by the Commissioners, of that portion of the Park, that would be affected by the proposed changes, showed that in one or two respects the surface of the Park would be more or less injured, while in other respects the changes would be distinctly advantageous.

After full consideration of the matter by the Commissioners, and protracted negotiations with the Company, an agreement was arrived at, under the terms of which the principal changes desired by the Company were approved, but subject to such conditions as will not only properly safeguard the Park interests, but which will at the same time enable the carrying out of several very important improvements, which the Commissioners have long had in contemplation. The text of the amended Agreement will be found in the Appendix to this Report.

Up to the present time the Company has not commenced active operations, but the Commissioners have the assurance of the President of the Power Company that the preliminary works are now sufficiently advanced to admit of an early start being made in the spring.

CANADIAN NIAGARA POWER COMPANY.

Early in the summer the Canadian Niagara Power Company informed the Commissioners that they had tentatively completed their financial arrangements, and were ready to begin construction operations, under the terms of Agreements made 7th April, 1892, and 15th July, 1899. The Company, however, represented to the Commissioners that owing to unavoidable delays the time limit stipulated in the Agreements was not sufficient for the completion of the first instalment of power to be developed by their works, namely, water connections for the development of 25,000 horse-power, and 10,000 electrical h.-p., to be actually ready for use, supply and transmission on or before the 1st day of July, 1903; failure in which respect involved the complete forfeiture of all the licenses, powers and authorities granted to the Company, under the terms of the Agreements referred to.

In order that the Company might complete its financial arrangements, they desired that an assurance should be given by the Commissioners, that in case the works were begun immediately, and prosecuted with all due energy, and yet failed through strikes or other unavoidable causes of being fully completed within the time set forth in the Agreements, the powers of forfeiture should not be arbitrarily exercised by the Commissioners, but that a reasonable time be allowed thereafter for finishing up the works and putting the grounds in order, as required under the terms of the contract.

As several years had passed since the Company entered upon its first Agreement, and several months had elapsed since the execution of the second Agreement, and still no substantial progress had been made in the prosecution of its works, the Commissioners considered it imperative that the Company should give the most substantial assurances of its determination to proceed with the work, before granting the extension asked. After lengthened negotiations, an agreement was finally arrived at, whereby the Company was granted until 1st July, 1904, for the completion of its first instalment of power, but subject to the following provisions, namely:

1st. That the Company should expend \$250,000 before the 1st of July, 1902, in work and materials in the execution of its Agreement.

2nd. The Company to satisfy the Commissioner of Public Works for Ontario, on or before the 1st July, 1902, that it had actually expended, or contracted to expend, on or before the 1st July, 1903, the sum of \$1,500,000 in works, plant and material in connection with the project.

3rd. The Company to have completed on or before the 1st July, 1904—First—Water connections for the development of 50,000 horse-power. Second—The outflow at any rate

for 100,000 h.-p., and, Third—To have actually ready for use, transmission and supply 20,000 electrical h.-p.

4th. The Company to deposit the sum of \$20,000 in the joint names of the Chairman of the Commissioners and Mr. Wallace Nesbitt, to be forfeited to the Commissioners on a certificate from the Commissioner of Public Works for Ontario that the Company had not actually expended, or contracted to expend, the several sums mentioned in paragraphs 1 and 2.

5th. The Agreement to be subject to approval and ratification by the Legislature of the Province.

It will be observed that under the terms of the amended Agreement, the Company has undertaken to make its initial development 50,000 horse-power of water connections, instead of 25,000 h.-p., and 20,000 horse-power of generated electricity instead of 10,000 h.-p., being double the quantities which the Company had contracted to furnish under its previous Agreements. This large increase in the initial development of electrical power, will not only sooner benefit the Park finances, but will practically confine the construction of all the works affecting the surface of the Park, to two units only for the ultimate development of 100,000 horse-power, for which the plant is designed. The works necessary for the extension of the electrical output thereafter will be confined chiefly to additions from time to time to the Power-house building, which will affect only a very small area of the Park, thus enabling the grounds in the vicinity of the works to be permanently restored sooner for park purposes than they otherwise could.

The Canadian Niagara Power Company also made application to the Commissioners for permission to sink a shaft midway between the site of their new power-house and the portal of their discharge tunnel, in order to expedite the construction of their works, and also for the right to build a transformer house. The Commissioners finding these requests to be in furtherance of more expeditious proceedings, they were granted.

All the Agreements entered into in respect of these several matters will be found in the Appendix to this Report.

Immediately after the execution of the Agreement the Company commenced active operations on their various works in the Park, and have since carried them on with great energy. The Commissioners have just received from the Company a statement showing that up to this date they have already expended on works in the Park, and have entered into contracts for works in progress, as well as for machinery and plant to be delivered, an amount exceeding \$1,750,000.

The construction of works of such magnitude must of necessity cause temporary disfigurement to a considerable portion of the Park, and not a little injury to the driveways, but these drawbacks cannot be avoided in the early stages of such a work, and must be endured for another season.

FORT ERIE FERRY RAILWAY COMPANY.

The Fort Erie Railway Company obtained a charter from the Legislature in 1897 to construct a line of Electric Railway from Chippewa to Fort Erie, and in furtherance of this project the Company entered into an Agreement with the Commissioners on the 10th April, 1900, whereby the Chain Reserve along the margin of the Niagara River, between the points named, is to be used in part for a right of way. The work of construction has not, as yet, been begun, but the Commissioners are informed that the Company has deposited their plans with the Department of Public Works, as required by charter, and are now in a position to commence work at any time. Meantime the rental under the Agreement has been paid.

SUNDRY APPLICATIONS FOR RIGHTS.

In addition to the more important transactions referred to, the Commissioners have, during the year, dealt with several matters requiring more or less consideration, some of which may be briefly enumerated: (1) The renewal of the lease of the Maid of

the Mist Steamboat Company was granted for one year only; and in view of the increased travel expected in 1901, the rental was somewhat increased. (2) Application for landing privileges, adjoining those of the Maid of the Mist Steamboat Company was made early in the year, by several gentlemen, who contemplated putting on a rival line of boats in the gorge. After prolonged negotiations between the applicants and the Commissioners, when all the difficulties incidental to the undertaking were considered, the applicants decided to abandon the project. (3) The Niagara Falls Gas Company asked for permission to cross the Chain Reserve with pipes to bring its supply of gas from the American side, and also for the privilege of laying pipes at certain points along the reserve, to supply customers with gas for house-warming and other purposes. The privileges asked for were granted conditionally and under restrictions safeguarding the interests of the Park and of the public.

An application was made on behalf of some American gentlemen, who desired to obtain the privilege of constructing an aerial railway across the gorge from Table Rock, on the Canadian side, to a point on Goat Island in the New York State Reservation—the object being to convey passengers from one side of the river to the other on cars suspended from wire cables, and carried as near to the face of the Horse Shoe Falls as possible. Application was also made for the privilege of erecting a Ferris Wheel in the Park, and for other schemes of making money out of the numerous visitors expected at the Falls during the Pan-American Exposition. The Commissioners deemed all of these so-called attractions to be, not only unnecessary, but entirely at variance with the principles which have governed them in the granting of park privileges, and they were therefore refused.

OLD FORT ERIE.

During the past ten years Municipalities and public bodies along the Niagara Frontier have expressed the desire that the historic old Fort and grounds at Fort Erie should be placed under the care of the Commissioners, and maintained as a part of the Park system. In compliance with this frequently-expressed desire, and in order to preserve the Fort grounds from further desecration, the Dominion Government has granted a License of Occupation for the 17½ acres in the reservation surrounding the ruins of the old Fort, upon the terms and conditions usual in grants of this nature, and providing that the lands in question shall be only used for the purposes of a public park. The Commissioners have taken possession of the property, and purpose to fence and plant the same in the spring.

VISIT OF ROYALTY.

On the 13th of October, the 89th anniversary of the Battle of Queenston Heights, the Park was honored by a visit from their Royal Highnesses the Duke and Duchess of Cornwall and York, now the Prince and Princess of Wales, accompanied by His Excellency the Governor-General and Lady Minto, and their distinguished suites. The visit was informal in its character, but the Park Superintendent, assisted by the President and Manager of the Electric Railway Company, and the Secretary of the Canadian Niagara Power Company, had the honor of pointing out to their Highnesses the various points of interest, as well as the historical features of the journey between Queenston and Chippewa. During their visit their Royal Highnesses performed the ceremony of locking a box, containing the plans and records of the works, projected by the Canadian Niagara Power Company in the Park, which is to be placed in the corner-stone of the Power-house building.

PAN-AMERICAN VISITORS.

The past season was an exceedingly busy one. The greatly increased number of visitors to the Falls and Park, owing to the proximity of the Pan-American Exposition, taxed the transportation facilities, between the two points, to the utmost, and necessitated much additional work by the Park staff in order to provide for the safety, con-

venience and comfort of the numbers that thronged every point of interest between Queenston and Slater's Point. Notwithstanding the abnormal increase in the number of visitors, good order was maintained throughout, for which the Park Officials are deserving of much credit.

GROWTH OF THE PARK SYSTEM.

As a period of seventeen years has elapsed since the Legislature authorized the appointment of Park Commissioners and the acquirement of lands adjacent to Niagara Falls, for Park purposes, and as over fifteen years have passed since the property was taken over, and the works of restoration and improvement were begun, and more especially as the area of the Park has been constantly increased, it may be interesting to briefly review a few of the more important features of the work of the Commissioners during that period.

The lands originally set apart for the Park included an area of about 154 acres, and extended from the Clifton House on the north to a short distance south of the Dufferin Islands, comprising a frontage along the Niagara River of one mile below and a mile and a half above the Horse Shoe Fall. To this, there has been added from time to time about 580 acres, so that at the present time the jurisdiction of the Commissioners extends over an aggregate of some 734 acres, comprising a strip of land along practically the whole bank of the Niagara River from Lake Erie to Lake Ontario, with enlarged park areas at Old Fort Erie, Niagara Glen and Queenston, in addition to the Park proper at Niagara Falls, and with a river frontage of about 27 miles.

The incorporation of so much additional territory into the park has necessarily involved a very considerable outlay, in order to provide suitable facilities for the public at as many of the points of attraction as possible, and the expenditure for keeping the property in good and serviceable condition has now become an important consideration. It will be very evident that if the Park is to be worthy of its name or of its character as a Provincial undertaking, generous provision must be made for improvements from time to time, and also for annual maintenance and renewals.

The following summarized statement will show, in condensed form, what the Commissioners have been able to accomplish during the fifteen years they have had control of the property:

RECEIPTS.

From Provincial Government for preliminary expenses.	\$ 18,929 04
" Sale of Park debentures	611,953 07
" Water-power privileges	229,577 78
" Railway privileges	103,250 00
" Photo, restaurant and other privileges	97,391 59
" Tolls—Islands and Brock's Monument	26,243 30
" Sales of old materials, etc.	22,538 79
Bank balance	2,704 39
	<hr/> \$1,112,587 96

EXPENDITURES.

Paid for lands, including costs of arbitrations	\$455,737 12
" permanent improvements	98,972 50
" Policing, general maintenance and ordinary matters	229,203 90
" Coupon interest on debentures	328,674 44
	<hr/> \$1,112,587 96

It will be seen from this statement that the interest charges on the \$600,000 debentures are equal to the aggregate of the expenditures made for maintenance and im-

provements, including the expenditure for preliminary works when the property was first acquired. It will also be noted that the income from the property for the fifteen years the Park has been in existence has amounted to over \$479,000, or considerably more than the original cost of the land.

With the exception of a small amount which was paid by the Government for the preliminary surveys, etc., in connection with the establishment of the Park, the Province has paid nothing whatever towards the cost of the entire system, the revenues from the property having been required to bear the annual charge for interest on the debentures and all the costs of improvements and maintenance, in connection with, not only the original Park Reservation, but also of the extensive accretions which have been made thereto from time to time. In this connection it may be noted that the State of New York has provided very liberally for the corresponding Park on the American side, the area of which is about 110 acres. During the 17 years this Park has been in existence the State has appropriated nearly \$325,000 for new works, and over \$405,000 for policing and maintenance, or about \$730,000 in all, while the income derived from the property has been about \$130,000. It would appear, therefore, that the net cost to the State of New York of the Reservation at Niagara Falls has been over \$2,000,000.

That the Commissioners have been able, with the very limited means at their command, to accomplish so much for the development of the Queen Victoria Park, without calling upon the Provincial Treasurer for assistance, is certainly a matter for congratulation, but, as has been pointed out in several of the Annual Park Reports, many important improvements, which would add greatly to the public enjoyment, at various points, have had to be deferred from year to year for want of the moneys necessary to their execution, and although the Commissioners have, on several occasions, recommended a small issue of debentures, in order that the most pressing of these works might be gone on with, yet the uncertainty which has so long existed in respect of the development of the water power, and the consequent want of assurance as to the revenues which could be depended upon, to provide for the interest on the outlays for such works, these recommendations have not hitherto been acted upon. Now, however, that the development of the water-power on a large scale by one of the Companies holding franchises is fully assured, and the best information at the command of the Commissioners leads them to believe that the other Company intends making an early start upon its works in the spring, the Commissioners are strongly of the opinion that there should be no further delay, and they, therefore, again recommend that authority be granted for an issue of Park Debentures to the amount of \$50,000 in order that the most urgent of these matters may be effected during the coming summer, the Debentures to bear interest at the rate of three and one-half per cent. (3½ per cent.), payable half-yearly, and maturing on the same dates as the previous issues.

The various field works which were carried out by the Commissioners during the year are referred to at length in the accompanying Report of the Superintendent of the Park.

The following statement will show the receipts and disbursements for the year:

RECEIPTS.

Balance in Imperial Bank January 1st. 1901.. . . .	\$ 8,733 04
Annual rental from Canadian Niagara Power Company . . .	\$15,000 00
“ “ from Niagara Falls Park and River Co. . . .	10,000 00
“ “ from Zybach & Company	8,200 00
“ “ from wharf privileges	532 00
“ “ from Fort Erie Ferry Railway Company	750 00
Receipts from tolls on Islands and at Brock's Monument. .	2,530 60
“ “ sales of old materials and sundries	298 91
	<hr/>
Overdraft at Imperial Bank December 31st. 1901.	\$ 2,704 39
	<hr/>
	\$48,748 94

EXPENDITURES.

Capital account:

Paid for permanent improvement, including cost of materials

		\$ 3,112 81
"	" wages of mechanics and laborers	1,907 54 \$ 5,020 35

Maintenance account:

Paid salaries and wages, including wages of teams, laborers, etc.

		\$15,278 67
"	cost of materials	3,191 74
"	Office expenses	252 46
"	Commissioners' expenses	603 38
"	Miscellaneous	207 00
"	Interest of bank overdrafts	7 05 \$19,540 30
"	Coupon interest on bond and Bank charges	\$24,188 29 \$48,748 94

All which is respectfully submitted.

J. W. LANGMUIR,
Chairman.
GEORGE H. WILKES.
JAS. BAMPFIELD.
A. W. CAMPBELL.

APPENDIX A.

REPORT OF THE PARK SUPERINTENDENT.

For the Year Ending December 31st, 1901.

To the Commissioners for the Queen Victoria Niagara Falls Park :

Gentlemen,—The past year has been in very many respects quite the most interesting in the history of the Park. Towards the close of the year 1900 a number of gentlemen resident in the Village of Lewiston suggested an international celebration of the passing away of the nineteenth century and the dawning of the twentieth, by the burning of two gigantic beacon fires—one to be placed in the Queenston Heights Park, overlooking the Village of Queenston, and the answering one on the heights overlooking the Village of Lewiston in the State of New York, and solicited the co-operation of the Park officials in carrying out the proposal. Friendly rivalry was soon aroused, the citizens of each village being desirous of making the best display, and much enthusiasm was manifested in providing fuel and fireworks for the interesting occasion. At a second or two before midnight on the 31st December the light of the eastern beacon on Lewiston Heights was seen, and a moment later the one on Queenston Heights responded, while a mighty shout from the citizens assembled was echoed and re-echoed across the dividing waters of the Niagara River, followed by the singing of the respective national anthems of the two countries. One of the 24-pounders, guarding Brock's Monument, was requisitioned, and a salute of nineteen guns fired, under the command of Major Sheppard, and was answered from Lewiston by a brass field piece. The celebration, which was perhaps the only one of an international character marking the dawn of the new century, passed off most successfully.

VISITORS FROM THE PAN-AMERICAN EXPOSITION.

Another interesting event, and one which necessitated a good deal of special preparation, was the opening of the Pan-American Exposition at Buffalo in May, and which continued until the 1st of November. The distinctive features of the exposition attracted great numbers of visitors from all parts of the world; and a very large proportion of these spent more or less time in seeing the many attractions in and about Niagara Falls. Without doubt the number who entered the Park during the season was fully equal to the aggregate of any two years since its opening in 1833, and it is worthy of note that, notwithstanding all this great gathering of peoples of many nationalities and of varying characteristics, the precautionary measures which had been adopted by the Board for the preservation of good order were so eminently successful that not a charge of violence against person or property in any portion of the Park system was made throughout the season. This result is distinctly creditable to the Park's Chief Constable and his assistants. I must also take this opportunity of bearing testimony to the most efficient manner in which the Provincial police, under Chief Mains, prevented the admission into Ontario of the thieves, pick-pockets and confidence men, who thronged the many points of contact with the American side, but who found practically no opportunity for carrying on their nefarious work on this side of the river.

ILLUMINATION OF THE FALLS AND GORGE.

This season the crowds of visitors were not confined to the day time; but a most interesting feature of the midsummer months was the illumination of the Falls by searchlights on a scale never before attempted. Every evening powerful electrical

searchlights were brought to bear upon the Falls and surrounding territory from the top of the high tower on the American side, from the Fallsview Station of the Michigan Central Railroad overlooking the Park, and also from a trolley car passing up and down the Gorge Railway. In addition to these very powerful luminants the smaller searchlights of the steamers plying between Slater's Dock and Buffalo were often thrown down stream from the upper river, and from the more elevated portions of the Park the beautiful Electric Tower, the chief feature of the Pan-American Exposition, surmounted by its mammoth searchlight, was clearly discernible. The effect of all this lavish display of electrical light upon the Falls and upon the rapids above and the turbulent waters in the gorge below, was a new revelation of beauty, which was very highly appreciated by citizens and visitors alike.

OPERATIONS OF CANADIAN NIAGARA POWER COMPANY.

The commencement of work in the Park by the Canadian Niagara Power Company on 31st May last, marks a new era in the history of Niagara Falls. The plans of the company provide for diverting a small proportion of the water of the Niagara River at the south end of Cedar Island, and by means of a short canal or forebay conducting it to the power house located on the west side of the original western channel of the river at this point, thence by means of penstocks carried down in a chamber cut in the solid rock to a depth nearly equalling the height of the Falls, the water will act upon water wheels placed on the lower end of a long steel shaft, the upper end of which will revolve the moving parts of the electric generators built on the floor of the power house. After turning the wheels the exhaust water will be carried away by a tunnel cut through the rock to the gorge of the river below the Falls.

In order to expedite the construction of this tunnel, which will be a work of great magnitude, the company, under agreement with the Commissioners put down a shaft on the west of Cedar Island, and about midway of the length of the tunnel, and after reaching the proper depth, headings have been driven in either direction, and in this way permitting of work being carried on much faster than by driving in from the portal alone. Up to the end of the year this work has progressed in a very satisfactory manner. Excavations for a large part of the inlet canal, the wheel pit and the power house have also been carried down to bed rock, and made ready for the work which may be performed in the winter season. A coffer dam to keep out the waters of the river while the other works are being carried on, has also been constructed. Altogether a very large amount of work has already been performed, and large quantities of materials have been delivered on the ground, in addition to the installation of machinery and appliances for expeditiously prosecuting these works.

The carrying on of all these extensive operations has of necessity destroyed, for the time being, a large area of the Park surface, and as the work progresses doubtless a still larger area will be required for the deposit of waste materials, and the storage of the many kinds of building materials and appliances to be incorporated into this work. Fortunately, however, the principal works are to be constructed well to the south of the Table Rock House, and as the great majority of visitors are not attracted beyond this point, all that portion of the Park from the Mowat Gate to Table Rock will, as heretofore, be available for their convenience and enjoyment.

The heavy teaming of materials and machinery required in the new works over the Park driveways has cut them up badly, particularly in the neighborhood of the Falls, and substantial repairs will be required in order to make the roads good for the heavy carriage travel of July and August.

Where the excavations for the new Power House interfered with the Park drive, a piece of new roadway has been constructed which will carry the traffic close to the main entrance of the building and alongside of the western face of that substantial and ornate structure. The principal Park driveway will, however, when the works are completed, be along the bank of the river, and be carried over the intake canal by means of a bridge.

DRIVE SHED AND TIE-UP YARD.

For several years past the farmers and others resident within driving distance of the Falls have been desirous of having better facilities for the accommodation of their horses and carriages when in the Park, and as the number of large district or Sabbath school and church picnics has multiplied of late years, the Commissioners determined to provide the best possible facilities for the convenience of this most desirable class of visitors. A portion of the Park remote from spray and well shaded was therefore set apart for the purpose, and a well-drained and gravelled yard, with a drive shed suitable for sheltering twenty carriages, and surrounded by a tie-up yard capable of containing forty additional teams and waggons was provided. An abundant supply of spring water was brought to the ground, and a watering trough and other conveniences were added. The shed is of iron pipe frame, covered with corrugated steel, and presents a neat appearance. As the new yard was located close to the sidehill bounding the Park, a well gravelled roadway was made for it leading in from the main Park driveway at the south end of Inspiration Point turn out.

That the work as executed has been satisfactory to those who most frequently make use of it is sufficiently evidenced by the cordial vote of thanks which the Stamford Township Council has tendered the Commissioners in this connection.

NEW SHRUBBERY, ETC.

Along the front pathway, and between it and the Electric Railway tracks, several long narrow beds of irregular outline have been laid out, and these were filled in the spring with dwarf flowering shrubbery of the choicest varieties. New beds of shrubbery have also been made around the new tie-up yard, and extending from the northerly end of the ball ground to the Robinson street entrance to the Park. As this is one of the best sheltered portions of the domain and the soil is naturally favorable, the most tender of the flowering plants, such as the rhododendrons, azalias, etc., etc., have been transferred to this location; these are interspersed with choice varieties of half hardy shrubs and trees, which in a very short time will make this one of the most desirable portions of the Park to those who appreciate forms of plant life not common to our own country.

A very desirable collection of ornamental trees was added during the year, and advantage was taken of the closing of the Pan-American Exposition to secure, at nominal cost, some very fine specimen evergreens and one of the prize collections of the beautiful "Azalea Mollis," which will add materially to our stock in hand.

Under the careful and skilful management of the chief gardener, the collection of plants in the greenhouse has become of great value, and is very much admired and enjoyed by visitors, many, however, of the larger growing varieties have now got quite beyond the capacity of the modest building erected in 1897, and a substantial addition, which will afford room for high growing tropical plants, is sorely needed. A new variety of Begonia, which the Park Gardener has originated, attracted very much attention at the Buffalo Exposition for its great wealth of bloom and graceful habit. A basket of Dahlias, sent up to brighten the table of the Horticultural display, and which was not intended for competition, but which the Superintendent of the exhibit considered worthy of a place in the competition with all America, and entered it of his own accord, captured no less than three first and two second prizes out of the five classes of varieties sent. As the flowers were not prepared specially for show, the result is at least creditable to the Park and to its Chief Gardener.

ADDITIONAL CONVENIENCES.

In anticipation of many additional visitors the lavatories and conveniences for their accommodation were carefully gone over and improved. A new and much larger lavatory building was substituted for the small wooden structure on the edge of the

cliff near Inspiration Point. It is constructed of lasting materials and flushed by a constant stream of spring water. In the large shelter at the rear of the restaurant the lavatory facilities for ladies were also increased and proved to be quite necessary. The space in this large room formerly occupied as a tool room, being required, a suitable building was erected in an out of the way spot adjoining the tie-up yard; this was built wholly of iron and steel, and has been found a great convenience to the workmen.

QUEENSTON HEIGHTS PARK.

For the past two or three years the interior lining of the walls of the chambers formed in the base of Brock's Monument have been showing signs of weakness, and during the winter of 1899 large portions of the cement plaster became loosened by the frost and by spring time had fallen. Part of this was attended to last season, and the whole of the ground floor gallery was made good. This year the upper gallery and portions of the main shaft up to the very top required renewal. Practically all the old lining was chiselled off and the circular walls of the column and the walls and ceilings of the gallery were thoroughly recoated with the best cement plaster. Owing to the very contracted limits of the space in the shaft and the difficulty in taking up and removing materials, this proved to be a very tedious work.

Upon examination it was also found that in many of the outside joints the pointing had deteriorated, and water was finding its way through the masonry. All the most exposed portions of the pedestal and basement, and particularly the exterior angles on which rest the emblematic devices supporting the shield with the armorial bearings of Sir Isaac Brock, had the joints cut out, caulked and tuck-pointed in the best possible way.

The dwarf wall enclosing the monument has been heaved by the frost in several places, and it will require to be taken down and rebuilt next season.

The ball ground to the west of the redoubts was levelled and enlarged and the picnic grove was cleaned up and improved in several ways.

As was to be expected, the number of visitors was greatly in excess of other years; and some very large picnic parties took advantage of the facilities afforded to spend a happy day on the historic field.

NIAGARA GLEN.

At Niagara Glen a new path was constructed, beginning at the foot of the stairway and following the line of the cliff to its southerly angle, thence in a winding direction down the talus to the river level. This path opens up some very interesting features of the Glen, and makes it possible to see much of its beauty without travelling twice over the same ground. Several additional pot hole stones of mammoth proportions have been found, and as there are a number of these nearly in line with each other, and practically upon the same contour level, a new path will be required in order to make them accessible, as otherwise the ground is too uneven for the average visitor to venture over.

Every visitor to the Glen is charmed with its much varied scenery and delighted with its wealth of botanical and geological treasures, and it is to be regretted that comparatively few have so far taken the trouble to explore its recesses.

The whole respectfully submitted.

JAMES WILSON, Superintendent

APPENDIX B.

AGREEMENT WITH THE CANADIAN NIAGARA POWER COMPANY
FOR EXTENSION OF TIME.

This Agreement, made this Nineteenth day of June, 1901, between the Commissioners for the Queen Victoria Niagara Falls Park, acting herein on their own behalf and with the approval of the Government of the Province of Ontario and hereinafter called the Commissioners of the First Part.

And the Canadian Niagara Power Company, hereinafter called the Company, of the Second Part.

Now these presents witness and subject to approval and ratification by the Legislature of the Province of Ontario at its next session of the provisions hereinafter contained, it is hereto agreed by the parties hereto.

(1) That the period of time for the completion of the works specified by paragraph 10 of the Agreement of 7 April, 1892, made by and between the Commissioners for the Queen Victoria Niagara Falls Park, acting therein on their own behalf, and with the approval of the Government of the Province of Ontario and hereinafter called the Commissioners of the First Part and Albert D. Shaw of Watertown, in the State of New York, Francis Lynde Stetson and William B. Rankine of the City of New York in the State of New York, thereinafter called the Company of the Second Part, and paragraph 6 of the Agreement of 15th July, 1899, made by and between the parties to these presents be extended to the First day of July, 1904, provided.

(A) That the company will satisfy the Commissioner of Public Works for Ontario that before the First day of July, 1902, the company has actually expended within Ontario the sum of Two hundred and fifty thousand dollars in work and materials laid out in excavations and in the foundations and erection of buildings in accordance with the Plan "A" annexed to the aforementioned agreement of 15th July, 1899, and the specifications relating thereto; and provided that the Commissioner of Public Works may allow the machinery and plant then on the ground according to its value as the said Commissioner of Public Works may determine as part of the said sum of two hundred and fifty thousand dollars to be actually expended as aforesaid.

(B) And, further, that the company shall on or before the First day of July, 1902, satisfy the Commissioner of Public Works for Ontario that it has expended or has contracted to expend upon the said works for labor, material, plants, building and machinery (including the work and materials mentioned in clause (A) of this agreement) to be respectively delivered, executed and performed or contracted so to be on or before the First day of July, 1903, at least the sum of one million, five hundred thousand dollars, the said works to be constructed in accordance with the plan attached to the afore-mentioned agreement of 15th July, 1899, and the specifications relating thereto (as varied by the contract bearing even date herewith) and all such contracts as aforesaid to be produced to the said Commissioner of Public Works and verified copies thereof filed with the Commissioner of Public Works on or before the said First day of July, 1902.

And it is also agreed that the amounts actually expended or contracted for by the company within the said several respective periods shall be determined by the Commissioner of Public Works for Ontario, whose decision shall be final and the company shall furnish to such Commissioner all such information as he shall require in the premises for the purpose of making such determination, and should the company for any reason refuse or neglect to furnish such Commissioner such information as aforesaid the Commissioner may proceed to make such determination on any ground he may think proper.

(C) Provided further that if the company shall make default under any or either of the next preceding two paragraphs hereof or in the event of the company not having made such progress with the said works on or before the First day of July, 1904, as to have on or before that date completed water connections for the development of 50,000 horse power and to have on or before that date an out-flow tunnel sufficient for not less than 100,000 horse power, and to have on or before that date actually ready for use, supply and transmission, 20,000 electrical horse power, the Lieutenant-Governor may declare the agreements of the 7th April, 1892, and of 15th July, 1899, and the liberties, licenses, powers and authorities granted by the same and by any or all of them to be forfeited and void, and thenceforth after such declaration the same shall cease and determine and be utterly void and of no effect whatever

(D) And provided further that the company at the time of the sealing and delivery of these presents deposits the sum of twenty thousand dollars to the credit and in the names of the Chairman of the Commissioners of the Queen Victoria Niagara Falls Park and Wallace Nesbitt, to be accompanied by a letter addressed to the bank and signed by the same persons to the effect that the said sum of money is to be paid by the bank to the Commissioners on the production of a letter or certificate signed by the Commissioner of Public Works for Ontario of a determination by him, the said Commissioner, that the sum of two hundred and fifty thousand dollars was not actually expended by the company according to the provisions and within the terms, definitions and limitations of clause "A" of this agreement on or before the First day of July, 1902, in work and materials laid out in excavations and in the foundations and erections of buildings in accordance with the Plan "A" annexed to the afore-mentioned agreement of 15th July, 1899, and the specifications relating thereto: or that the company has not on or before the First day of July, 1902, satisfied the said Commissioner of Public Works for Ontario that it has expended or has contracted to expend upon the said works for labor, material, plants, building or machinery, including the work and materials mentioned in clause "A" of this agreement as agreed to be done by the First day of July, 1902, to be respectively delivered, executed and performed on or before the First day of July, 1903, at least the sum of one million five hundred thousand dollars, the said works to be constructed in accordance with the plans attached to the aforementioned agreement of 15th July, 1899, and the specifications relating thereto as varied by the contract bearing even date herewith and all such contracts as aforesaid to be produced to the said Commissioner of Public Works and verified copies thereof filed with the Commissioner of Public Works on or before the said First day of July, 1902.

Provided that unless such letter or certificate to the effect aforesaid be signed and presented to the said bank on or before the First day of September, 1902, the said sum of \$20,000 shall revert to the company.

And provided further that upon the said letter or certificate being signed by the Commissioner of Public Works to the effect aforesaid on or after the First day of July, 1902, the said sum shall become the property of the Commissioners, the parties hereto, of the first part, freed from any claim thereto by the company.

(E) And it is hereby further agreed by and between the parties hereto that they will use their best endeavors to procure and either party hereto may apply to the Legislature of Ontario at its next session for an act of the Legislature approving and confirming this agreement, declaring it to be in accordance with the intentions of both parties that any payments of rent made to and accepted and received by the Commissioners after 1st July, 1902, and any variations made by this agreement in the terms and provisions of the said agreements of 7th of April, 1892 and of 15th July, 1899, shall in no way be any waiver of the right of the Lieutenant-Governor-in-Council to declare the said agreements void in accordance with the provisions in paragraph 10 of the agreement of 7th of April, 1892, or of paragraph 6 of the agreement of 15th of July, 1899, in case of default by the company hereunder in the event or events provided by paragraph "C" hereof.

Provided always that in the event of such legislation not being obtained at the said next session of the Legislature of Ontario, approving and confirming this agreement then these presents shall in so far as the same purport to extend the time within which under the agreements of 7th of April, 1892, and 15th of July, 1899, the company was bound to complete the said works, be utterly null and void, and the said company shall be and remain subject to the powers of the Lieutenant-Governor-in-Council to declare the agreement of 7th of April, 1892, as varied by the agreement of 15th July, 1899, and the said last-mentioned agreement forfeited and void by reason of non-compliance therewith by the company as if this agreement had not been made or entered into and notwithstanding any act, matter or thing whatsoever which may have happened or been done under or in pursuance of this agreement.

In witness whereof the parties hereto have hereunto set their hands and seals the day and year first above written.

(Signed) J. W. LANGMUIR,

[Seal]

Chairman for the Commissioners
for the Queen Victoria Niagara Falls Park.

(Signed) For the Canadian Niagara Power Company.

W. H. BEATTY, President.

[Seal]

A. MONRO GRIER, Secretary.

APPENDIX C.

AGREEMENT WITH CANADIAN NIAGARA POWER COMPANY,
PER SHAFT, ETC.

THIS AGREEMENT, made this Nineteenth day of June, One thousand, nine hundred and one Between the Commissioners for the Queen Victoria Niagara Falls Park, acting herein on their own behalf and with the approval of the Government of the Province of Ontario, and hereinafter called the Commissioners of the First Part, and the Canadian Niagara Power Company, hereinafter called the Company of the Second Part.

In view of the provisions contained in the Agreements made and entered into on the Seventh day of April, 1892, between the said Commissioners of the First Part and Albert D. Shaw, Francis Lynde Stetson and William B. Rankine of the Second Part as confirmed and governed by Chapter 8 of the Statutes of Ontario, 1892, and the Agreement made and entered into on the Fifteenth day of July, 1899, between the parties to those presents relating to the Agreement first above mentioned, pursuant to the Statute of Ontario, 1899, Chaptered 11, Section 35, and other matters, the Company have applied to the Commissioners for certain changes in the works to be done and performed in accordance with the said Agreements or either of them.

Now therefore this agreement witnesseth, and it is hereby agreed by the parties to these presents, as follows, this is to say :

(1) That the Company may sink a shaft at a point west of Cedar Island in the Lagoon indicated on the plan "B" hereto annexed for the purpose of excavating the tunnel for discharge of waters below the Falls as such tunnel is laid down on plan marked "A" annexed to the Agreement made between the Commissioners and the Power Company, bearing date Fifteenth July, 1899.

(2) That the line of the tunnel so laid down on the aforesaid plan marked "A" is hereby shifted to about thirteen feet to the eastward, in accordance with the line of such tunnel, as the same is shewn and located on the plan "B" hereto annexed, and such change of location of the said tunnel shall be as effectual between the parties hereto as if such location on plan "B" had been originally located in accordance with the aforesaid plan marked "A."

(3) That the Company may construct and build a Transformer House in the immediate vicinity of their Power House as such Power House is located on the aforesaid plan marked "A" the design of such Transformer House and its location to be subject to the approval of the Chairman of the Commissioners and to be submitted to him for such approval before the construction or building thereof be commenced.

(4) That the license to the Company to construct the tunnel before described under the provisions of aforementioned Agreement of Fifteenth July, 1899, and according to the aforesaid plan marked "A" annexed to the said Agreement or as varied by the aforesaid plan marked "B" hereto annexed, shall not give or vest any right or authority over the lands under which the said tunnel is to be constructed, except such as may be necessary to be done by the Company for the construction, maintenance or repair of the said tunnel, and that in any such case the works necessary shall be at the cost of the Company and no unnecessary damage be done by the said Company to the lands of the Park or the property of the Commissioners or to the rights of any person or Company lawfully enjoyed within the Park.

(5) All the works hereby authorized to be done by the Company shall be subject to the provisions of the aforesaid Agreement of Fifteenth July, 1899, and of the Agreement of Seventh of April, 1892, where not varied by the former Agreement and of this Agreement.

And this Agreement further witnesseth, and it is hereby agreed by and between the parties hereto that nothing in the before-mentioned Agreements of Seventh April, 1892, and Fifteenth July, 1899, or either of them shall control, restrict or affect the power of the Commissioners to grant lease or demise to the Corporation of the Town of Niagara Falls for such period as may or from time to time may be agreed upon the right to take water from the Niagara River at any point for the manufacture and development of electrical power by the said Corporation of the Town of Niagara Falls up to one hundred horse power, to be used for such purposes as shall or may be lawful for Municipal Corporations of Towns or Cities, under the powers and provisions contained in the Municipal Act for Ontario.

In witness whereof the parties hereto have hereunto set their hands and seals the day and year first above written.

(Signed) J. W. LANGMUIR,

Chairman, Commissioners for the
Queen Victoria Niagara Falls Park.

[Seal]

(Signed) For the Canadian Niagara Power Company.

W. H. BEATTY, President.

[Seal]

(Signed) A. MONRO GRIER, Secretary.

APPENDIX D.

THE ONTARIO POWER COMPANY OF NIAGARA FALLS.

SUPPLEMENTARY AGREEMENT OF 15TH AUGUST, 1901; ANCILLARY AGREEMENT OF 15TH AUGUST, 1901, WITH THE COMMISSIONERS FOR THE QUEEN VICTORIA NIAGARA FALLS PARK.

THIS AGREEMENT, made this fifteenth day of August, in the year of our Lord one thousand nine hundred and one, between the Commissioners of the Queen Victoria Niagara Falls Park, acting herein on their own behalf and with the approval of the Government of the Province of Ontario, and hereinafter called the "Commissioners" of the first part, and The Ontario Power Company of Niagara Falls, incorporated by the Parliament of Canada under and by virtue of Act 1887, 50-51 Victoria, Chapter 120; Act 1891, 54-55 Victoria, Chapter 126; Act 1893, 56 Victoria, Chapter 89, and Act 1899, 62-63 Victoria, Chapter 105, hereinafter called the "Company" of the second part.

Whereas the parties hereto made an agreement dated the 11th day of April, one thousand nine hundred, respecting the development of power within the Queen Victoria Niagara Falls Park :

And whereas the Company desires certain changes in respect to the order in which the several works referred to in said agreement of eleventh April, one thousand nine hundred, were to be carried out, and also desires certain changes in the design of some of the works therein described and as outlined or indicated on the plan marked "A" thereto attached, which said changes are outlined and indicated on the plan hereto annexed marked "B," being the plan of works intended to be submitted to the Minister of Railways and Canals for his approval and consent, no plan of the works intended under plan marked "A" having been so submitted.

Now therefore this agreement witnesseth, and it is agreed by and between the parties hereto as follows, that is to say :—

1. This agreement shall be taken as supplementary to the said agreement of 11th April, one thousand nine hundred. Save when inconsistent with this agreement, all the terms of the said last mentioned agreement are to remain in full force and the rights and liabilities of the parties respectively are to be according to said agreement, but in so far as this agreement is inconsistent with the said agreement of eleventh April, one thousand nine hundred, or any part thereof, this agreement shall govern. Before any of the works authorized by this agreement are commenced the detail working plans and specifications of the various parts thereof shall be from time to time submitted to the Commissioners for approval, and no works shall be proceeded with until such approval has been given.

2. The map or plan hereto annexed, entitled, "Amended Map of the Ontario Power Company's Works in the Queen Victoria Niagara Falls Park," and lettered "B," shall be substituted for and take the place of so much of the works indicated on the plan "A" attached to said agreement of 11th of April, one thousand nine hundred, as are shown thereon in yellow lines and which are known and referred to and described in said agreement as the works of the "second development"; such works hereby proposed and agreed to be substituted being subject to the same approval and consent by the Minister of Railways and Canals as required by the agreement of 11th April, one thousand nine hundred, in respect of the works indicated on the plan "A" attached to the said agreement.

3. The works to be constructed under this agreement may be described as follows:
- (a) The Company shall conduct the waters of the Welland River from their hydraulic works without the Park to the open canal or raceway in the Park by means of one or more tunnels constructed under the high bank and entering the Park at or near the point marked "C" on said plan lettered "B."
 - (b) The open canal or raceway in the Park shall extend from the point "C" on said plan to a point distant 100 feet south of the southerly line of Table Rock House and marked "D" on said plan. The easterly limit of the works of the Company required in the construction of this open canal or raceway shall at the finished level of the surface of the Park, as such finished level may be defined by the Commissioners, conform generally to the heavy continuous red line indicated on the said plan. The westerly limit of the canal or raceway north of the Monastery hill shall follow generally the base of the high bank forming the western boundary of the Park, but the company may, with the approval of the Commissioners and not in conflict with the approval and sanction of the Minister of Railways and Canals, straighten out any projections of the base of the bank which may unduly contract the area of the said canal. The works of the Company are to be so constructed as to permanently secure the high bank or any part of it from erosion or displacement, and the company shall execute such additional works for the protection of such high bank or part thereof whenever the stability thereof is endangered, as the Commissioners may direct.
 - (c) From the point "D" on said plan the Company may construct an open forebay extending northwards as far as the point "E" on said plan or to within fifty feet of the line of the most southerly wall of the Dufferin Cafe, on the east side of the forebay a retaining wall shall be constructed from the level of the bedrock to a height sufficient to protect the Park and its roadways and railways against overflow, not only at ordinary working level but at any higher level which may arise by fluctuations from any cause. Between the said points "D" and "E" the easterly retaining wall of the forebay shall not at any point be located nearer than such distance to the westward of the present westward rail of the Niagara Falls Park and River Railway Company's tracks or sidings, as now located, as shall be sufficient to build and erect an embankment to the top of said wall on a slope of one to one, the easterly base of the foot of said embankment not being nearer to the said westerly rail of the Niagara Falls Park and River Railway than nine and one-half feet.
 - (d) The said embankment shall be of earthwork, and shall be constructed so as to conceal the retaining wall from view, and it shall be graded and sodded to the approval of the Commissioners from time to time as they direct until the whole has been completed. The embankment shall not be erected in front of the projecting penstock chambers, but the penstock chambers shall be faced with massive random coursed masonry and built to such batter as the Commissioners shall require and approve. The face of the masonry shall not be nearer at any point than nine and one-half feet from the present westerly rail of the tracks of the Niagara Falls Park and River Railway. The west side of the forebay shall be the slope of the hill, and the Company shall execute such works for the protection of the said hill wherever interfered with or its stability endangered, as the Commissioners may direct.
 - (e) The gate houses at the penstock chambers must be of the least practicable dimensions and kept as far from the eastern face of the wall as possible. The design must be ornate and to the approval of the Commissioners.
 - (f) From the open forebay above described the Company may by means of pipes or penstocks carried under the surface of the Park conduct the waters aforesaid to the Power House situate in the gorge below the Falls and north of the present hydraulic elevator. The Company may also construct one or

more underground pipes for the carrying away of ice or frazil from the forebay, but such ice runs are to be constructed to the water level of the lower river.

- (g) The minimum ordinary working level of the water in said open canal or raceway is to be not over twelve feet above the level of the present ground floor of Table Rock House, but the said raceway is to be constructed of sufficient height to safely carry the water not only at said ordinary working level but also at any higher level which may arise by fluctuations caused by operating the penstocks or otherwise. The Company may construct a spillway of sufficient size to allow all water entering the raceway to flow out of the same through such spillway in case of sudden closing of the penstocks; the location of said spillway to be as shown on said plan lettered "B."
- (h) One bridge only is to be constructed across said raceway as may be located by the Commissioners, so as to connect with the roadway leading down from convent, such bridge shall in size, strength, material and character generally conform to the bridges described in clause 9 of the agreement of 11th April, one thousand nine hundred.

4. The Company shall have the right to construct the works herein described and as shown in the plan marked "B" annexed hereto in advance of the works of the first development as such are by said agreement provided.

Before the Company shall proceed with the construction of the works of the first development mentioned and described in the agreement of 11th April, one thousand nine hundred, it shall submit to the Commissioners for approval the plans of the proposed mode of conducting the water from the hydraulic works without the Park to the Power House of the first development. Such plans or proposals for the works described as the first development shall not require any larger or different territorial rights than are provided in relation to such first development under the agreement of 11th April, one thousand nine hundred.

5. Notwithstanding anything in the agreement of 11th April, one thousand nine hundred, contained relating to the first development, the Company shall not proceed with the construction of the works of the same or any part thereof until the approval has been given by the Commissioners to the mode of conducting the water from the works without the Park as aforesaid. The right of the Company to construct such works relating to the first development is hereby limited to the period of ten years from the date hereof.

6. All the terms and provisions of the agreement of 11th April, one thousand nine hundred, shall so far as applicable apply to the works authorized by this agreement and to the execution and carrying on thereof.

And for greater certainty, but not so as to restrict the generality of the foregoing, it is declared and agreed that clause number eleven of the said agreement of 11th April, one thousand nine hundred, shall apply with respect to the works authorized by this agreement in the same manner as the said clause applies to the work therein specially referred to, and that clause number thirty-one of the said agreement of 11th April, one thousand nine hundred, shall apply with respect to its provisions so as to include the matters in these presents contained.

7. Provided that the works on the premises delineated on the plan hereto annexed shall not interfere with or deprive the Canadian Niagara Power Company of the right to construct, operate and maintain the underground tunnel leading the waters of the Niagara River from the power houses and wheel-pits which they are about to erect and develop in pursuance of the several agreements entered into between the Commissioners of the Queen Victoria Niagara Falls Park (herein styled the Commissioners) bearing date 7th April, 1892, 15th July, 1899, and 19th June, 1901.

8. And the Company shall indemnify the Commissioners from all claims or demands by any person or persons whomsoever, whether arising by reason of the exercise by the Company of the powers, rights or authorities or any of them conferred by the hereinbefore recited Acts of the Parliament of Canada, or either of them, or by

reason of anything done by the Company in the exercise thereof affecting any property, rights or privileges heretofore by the Commissioners granted to or conferred upon any person or persons whomsoever, or enjoyed, used and exercised by any such person or persons under the Commissioners; it being the intention of this agreement that should the Company in the exercise of the aforesaid powers, rights and authorities so affect any such property, right or privileges granted by or enjoyed under the Commissioners, the Company shall fully indemnify the Commissioners in respect thereof.

And in the event of any claims or demands aforesaid being preferred before or in any tribunal, whether in a court of law or by proceedings of arbitration against the Commissioners or for the Commissioners or in their name, the Company undertake and agree to intervene on behalf of the Commissioners and defend the same or take such action in the premises at the cost and charges of the Company; the Commissioners hereby conferring upon the Company all such rights and powers to act in their name and in their behalf in the premises, or to confer such other and further rights and powers as may be required by the Company and necessary.

In witness whereof the corporate seal of the Commissioners has been hereunto affixed by their chairman, who has also signed these presents in certification of due execution hereof by the Commissioners, and the corporate seal of the Company has been hereunto affixed by the president, who has also signed these presents in certification of due execution hereof by the Company and on the day and year aforesaid.

(Sgd.) J. W. LANGMUIR, [Seal of Commissioners]
Chairman.

THE ONTARIO POWER COMPANY
OF NIAGARA FALLS.

Executed in the presence of
JAMES WILSON

By JOHN J. ALBRIGHT, [Seal of Company]
President.

Attest. ROBT. C. BOARD,
Secretary.

ANCILLARY AGREEMENT.

An Ancillary Agreement made the 15th day of August, A.D. 1901, between the Commissioners of the Queen Victoria Niagara Falls Park, acting herein on their own behalf and with the approval of the Government of the Province of Ontario, and hereinafter called the "Commissioners," of the first part, and the Ontario Power Company of Niagara Falls, hereinafter called the "Company," of the second part.

Whereas by agreement bearing even date herewith made by the parties hereto as supplementary to the main agreement between the parties, dated the eleventh day of April, 1900, provision is made for the construction of certain works in the Queen Victoria Niagara Falls Park in such manner that the building and premises in the said Park, known as "Table Rock House," will ultimately have to be removed or interfered with.

And whereas the said building and premises are now in the occupation of tenants of the Commissioners, but it is the intention to arrange, if possible, with said tenants to surrender their lease in order that the said building may be removed and the said works constructed in accordance with the plan hereto annexed, and if no arrangement is reached then that the Company do expropriate under their statutory powers.

And whereas this agreement is ancillary to the said agreement of even date herewith.

And whereas by the said agreement of even date it is among other matters in effect witnessed, that should the Company in the exercise of its powers, rights and authorities, affect any property, rights or privileges heretofore by the Commissioners granted to, or conferred upon any person or persons whomsoever, or enjoyed, used and exercised by any such person or persons under the Commissioners, the Company shall fully indemnify the Commissioners in respect thereof.

Now, therefore, the parties hereto hereby agree as follows :

1. In respect of any sum of money which shall be agreed upon between the Company and the tenants of the Commissioners in occupation of the said Table Rock House as compensation to be paid to such tenants, or any sum of money which in the event of no agreement shall be determined to be paid to such tenants by the Company or by the Commissioners, as the case may be, either as compensation by award or as damages upon judgment, including the amount of costs in any case, shall be paid by the Company.

2. Such amount so recovered as aforesaid and paid by the Company, shall as between the Company and the Commissioners be borne as follows :—The sum of ten thousand dollars by the Company, and the excess, if any, over and above the said sum of ten thousand dollars, shall be borne and paid by and between the Company and the Commissioners in equal shares, and any balance due from the one to the other shall be paid accordingly.

3. In the event of such compensation or payment of damages being agreed upon between the Company and such tenants, no contribution shall be payable by the Commissioners, unless the Commissioners shall by resolution of their Board have assented to the amount agreed upon by the Company.

4. The Company shall on or before the first day of July, 1903, obtain possession of the Table Rock House, either by agreement with the tenants of the Table Rock House, or by entry under the powers of the Company, or otherwise, and the whole of the said Table Rock House shall be levelled by 1st January, 1904, and of such portion or part of the Table Rock House not within the line of works of the Company, as laid down on the plan marked "B" attached or annexed to the supplementary agreement of even date herewith, the materials shall be wholly removed, and possession of such part or portion delivered to the Commissioners by 1st January, 1904.

5. The Company shall, on or before the first day of March, 1902, submit for approval of the Minister of Railways and Canals the plans referred to in the first and second paragraphs of said agreement of April 11th, A.D., 1900, and the Company shall prosecute with due diligence the proceedings necessary to enable it to obtain, under its statutory powers, possession of Table Rock House, and to remove and level the same within the period above mentioned, and should the company make default in so submitting said plans or in prosecuting such proceedings with due diligence, and should such possession not be obtained and removal and levelling not be done within the said period by reason of such default, then this agreement shall be void and at an end.

6. Pending the getting of possession of Table Rock House and the removal thereof by the Company by consent as herein provided, or under its statutory powers, the eastern line of the Company's works near Table Rock House may be as shown by the dotted red line on plan "B" annexed to the said agreement of even date herewith.

In witness whereof the Commissioners have hereunto affixed their corporate seal, and the Chairman of the said Commissioners has signed these presents in token of due execution hereof on the part of the said Commissioners.

And the Company have hereunto affixed their corporate seal, and the President of the said Company has signed these presents in token of due execution hereof on the part of the said Company, the day and year first above written.

(Sgd.) J. W. LANGMUIR, [Commissioners' Seal]
Chairman.

THE ONTARIO POWER COMPANY OF
NIAGARA FALLS.

Executed in the
presence of
(Sgd.) JAMES WILSON.

By JOHN J. ALBRIGHT, [Seal of Company]
President.

Attest, ROBT. C. BOARD,
Secretary.

RESOLUTION.

At a meeting of the Board of Directors of the Ontario Power Company of Niagara Falls held at the office of the Company, in the City of Buffalo, October 12th, 1901, the proposed supplementary agreement and the ancillary agreement thereto between the Commissioners of the Queen Victoria Niagara Falls Park and the Ontario Power Company of Niagara Falls were produced and read, and on motion, duly seconded, it was unanimously

Resolved, that the supplementary agreement and the ancillary agreement thereto between the Commissioners of the Queen Victoria Niagara Falls Park, acting therein in their own behalf and with the approval of the Government of the Province of Ontario, and the Ontario Power Company of Niagara Falls, submitted to this meeting, be and the same are hereby approved and adopted, and Mr. John J. Albright, the President, and Mr. Robt. C. Board, the Secretary of the Company, be and they are hereby authorized and directed to execute the same on behalf of this Company, in triplicate, by affixing the corporate seal of this Company thereto and to map "B" attached to said agreements and forming part thereof, and by signing the same and said map "B" as such President and Secretary. And that when so executed said officers are authorized, empowered and directed to make delivery thereof as the act and deed of this Company, and that the said agreements and map be entered in full on the minutes of this meeting, which is accordingly done below.

I, Robert C. Board, Secretary of the Ontario Power Company of Niagara Falls, hereby certify that the foregoing resolution is a true copy of the resolution passed at a meeting of the Board of Directors of the said Company, held Oct. 12th, 1901.

(Sgd.) ROBERT C. BOARD.

Buffalo, N.Y., Oct. 14th, 1901.

[Seal, The Ontario Power Com-
pany of Niagara Falls.]

Statutes of Ontario

CHAPTER II.

AN ACT TO APPROVE AND CONFIRM AN AGREEMENT
BETWEEN THE COMMISSIONERS FOR THE QUEEN
VICTORIA NIAGARA FALLS PARK AND THE CANAD-
IAN NIAGARA POWER COMPANY.

Assented to 17th March, 1902.

HIS MAJESTY, by and with the advice and consent of
the Legislative Assembly of Ontario, enacts as follows :—

1. The Agreement between the Commissioners for the Queen Victoria Niagara Falls Park and the Canadian Niagara Power Company, dated the 19th day of June, one thousand nine hundred and one, a copy of which is contained in the Schedule hereto, is hereby approved, ratified and confirmed, and declared to be binding on the parties thereto, and the Commissioners and the Company respectively may do whatever is necessary to give effect to the substance and intention of the said agreement.

Agreement
with Canadian
Niagara Pow-
er Company
confirmed

2. This Act is passed in fulfillment of the provisions of sub-section (e) of paragraph 1 of the said agreement.

Of Act passed in
pursuance of
agreement

APPROVED BY HIS HONOR THE LIEUTENANT-GOVERNOR THE

23RD DAY OF APRIL, A.D. 1902.

Approving Agreements Dated 15th Aug. 1901.

Referring to the Order-in-Council of the 13th April, 1900, approving of a certain Agreement bearing date the 11th day of April, 1900, made between the Commissioners of the Queen Victoria Niagara Falls Park, of the First Part, and the Ontario Power Company of Niagara Falls, of the Second Part, respecting the construction of works and exercise of powers within the Queen Victoria Niagara Falls Park, and upon the recommendation of the Honorable the Attorney-General, the Committee of Council, advise that the accompanying agreements between the said parties, each dated 15th August, 1901, and known as the "Supplementary Agreement" and the "Ancillary Agreement" be approved of by Your Honour.

Certified,

(Sgd.) J. LONSDALE CAPREOL,

Asst. Clerk, Executive Council.

2 EDWARD VII.

Statutes of Ontario.

CHAPTER 12.

STATUTE LAW AMENDMENTS.

Assented to 17th March, 1902.

30. The name, "International Railway Company," is substituted for the name "Buffalo Railway Company" wherever same appears in the Statutes of Ontario, 1901, chaptered 86, and the same is to be read as if such substituted name had been originally inserted; Provided the Parliament of Canada extends the provisions of the Statute of Canada, 1900, chaptered 54, to the International Railway Company a foreign corporation, as the successor in interest of The Buffalo Railway Company, substituting the name of the International Railway Company wherever the same appears in the said Statute of Canada, to be used as if such substituted name had been originally inserted therein; And provided Parliament at same time enacts that the vesting in the said company, the business, property rights and incidents appurtenant thereto, and all other things belonging to the Niagara Falls Park and River Railway Company, by any agreement made between it and the said Buffalo Company by the said Statute of Canada prescribed, did not deprive or assume to deprive the Legislature of Ontario of its powers and rights in respect of the Niagara Falls Park and River Railway Company or the jurisdiction and control of the Commissioners for the Queen Victoria Niagara Falls Park, as by the said statute provided.

QUEEN VICTORIA
NIAGARA FALLS
PARK

SCALE OF FEET
0 200 400 600 800 1000 1200 1400



James Wilson
Superintendent
March 1st 1903

SEVENTEENTH ANNUAL REPORT
OF THE
COMMISSIONERS
FOR THE
QUEEN VICTORIA NIAGARA FALLS PARK
FOR THE YEAR ENDING
1902

PRINTED BY ORDER OF
THE LEGISLATIVE ASSEMBLY OF ONTARIO.



TORONTO:
PRINTED AND PUBLISHED BY L. K. CAMERON,
Printer to the King's Most Excellent Majesty
1903

BOARD OF PARK COMMISSIONERS.

JOHN W. LANGMUIR, CHAIRMAN.

GEORGE H. WILKES.

JAMES BAMPFIELD.

ARCHIBALD W. CAMPBELL.

ROBERT JAFFRAY.

SUPERINTENDENT, JAMES WILSON.

CHIEF GARDENER, RODERICK CAMERON.

Toronto, March 4th, 1903.

The Hon. J. R. Stratton, M.P.P.,
Provincial Secretary Province of Ontario,
Parliament Buildings, Toronto.

Sir.—I have the honor to transmit herewith, for presentation to the Legislature of Ontario the Seventeenth Annual Report of the Commissioners for the Queen Victoria Niagara Falls Park, together with the appendices thereunto attached.

I have the honor to be, Sir,
Your obedient servant,

J. W. LANGMUIR, Chairman.

SEVENTEENTH ANNUAL REPORT OF THE COMMISSIONERS FOR THE QUEEN VICTORIA NIAGARA FALLS PARK.

To the Honorable Sir Oliver Mowat, K.C.M.G.,
Lieutenant-Governor of the Province of Ontario.

May it please your Honor: The Commissioners of the Queen Victoria Niagara Falls Park beg to submit their Seventeenth Annual Report (being for the year 1902), to which is appended the usual statement of receipts and expenditures, the report of the Park Superintendent and the text of several agreements which were entered into during the year, together with the expert evidence obtained in connection with some of these agreements.

The vacancy which had existed on the Board of Commissioners since the decease of Mr. B. E. Charlton was filled during the past year by the appointment of Mr. Robert Jaffray of Toronto.

Before entering on a review of the proceedings and transactions of the Commission for the past twelve months, the Commissioners may be permitted to refer to certain strictures and adverse criticisms on the Management of the Park affairs which have appeared from time to time in the press. These criticisms evidently are based upon an entire misapprehension of the facts, and if allowed to pass unchallenged may be accepted by the public as being well founded and unanswerable. The chief stricture to which objection is taken by the Commissioners is, that in order to provide revenue they have committed acts of vandalism that will ultimately ruin the scenery of Niagara Falls, and one writer goes so far as to say "that it is scarcely possible to conceive how anything short of financial interest could have persuaded them (the Commissioners) so to play false to the whole spirit of their trust."

In view of such statements it appears to be necessary that the Commissioners should again clearly set forth the policy which was adopted at the time the Park was established, and which has been consistently adhered to throughout the fifteen years which have since elapsed, and in furtherance of this reference will be made (1) to the measures authorized by the Legislature for acquiring the Park and the duty cast upon the Commissioners to provide the funds needed for the improvement and maintenance of the property, (2) The area of the property originally selected about the Falls for Park purposes and the very extended territory that has since been placed under the jurisdiction of the Commissioners and, (3) The sources from which the funds are derived for carrying on the work.

When the Government of Ontario had the Park project under consideration two general principles were regarded as indispensable to the carrying out of the project, viz.: That no financial burden should be laid upon the Province for either the purchase or maintenance of the property, and in conformity with the plan adopted on the American side of the river that the Park should be made free.

Conforming to these initial conditions, obviously the only plan open to the Commissioners for securing the funds to establish the Park was through the issue of debentures guaranteed by the Province and secured by the lands

selected for the Park. Acting therefore on the recommendation of the Commissioners the Legislature authorized an issue of forty-year four per cent. debentures to the amount of \$525,000, and with the proceeds, the lands originally forming the Queen Victoria Niagara Falls Park were acquired, improved and thrown open to the public.

It should here be stated that the original design of the Commissioners was to include only the property running southwards along the bank of the river from the Clifton House to Cedar Island, about one mile in length and averaging about one-eighth of a mile in width, and comprising about 85 acres. From this territory the best views of both the American and Horse Shoe Falls can be obtained as well as the gorge of the river below the falls, while from the higher ground on the west the upper rapids can be seen in the distance. In order, however, to obtain nearer and better views of the magnificent rapids above the Falls and at the same time to secure for the Park the beautiful background and charming scenery surrounding what are now known as the Dufferin Islands, it was after careful deliberation decided to obtain an additional area extending about a mile and a half farther up the river to smooth water above the head of the rapids. For the greater part of this distance nature has provided an ideal background of beautifully wooded banks, which furnish the natural outline of a completed Park. These properties which originally comprised the Queen Victoria Niagara Falls Park cover about 154 acres. Subsequently additional lands (the property of the Crown) lying along the Niagara River were added to the Park from time to time or placed under the care of the Commissioners and the property known as Foster's Flats lying immediately north of the Whirl-pool and comprising about 100 acres of territory, unique in its unrivalled grandeur and primitive wildness, was purchased and added to the Park domain. With these additions the Park now practically extends the whole length of the Niagara River from Lake Erie to Lake Ontario and embraces an area of about 734 acres.

The acquisition of these additional lands and the maintenance and permanent improvement of this very extensive and diversified property necessitated a further issue of debentures for \$75,000, making a total debenture liability of \$600,000, bearing interest at 4 per cent. per annum.

Based upon the expenditures of the past fifteen years the average annual amount required for maintenance and permanent improvements has been as follows:—

4 per cent. on \$600,000 debentures.....	\$21,000
Permanent improvements—average per annum—.....	6,700
Maintenance and ordinary improvements.....	17,300
Or an annual charge of.....	\$48,000

On the American side the lands expropriated for the purposes of the State Reservation have an area of 110 acres acquired at a cost of nearly one and a half million dollars. These lands were practically handed over to the Board of Commissioners as a gift from the State of New York, and in addition the State Legislature authorized a payment to the Commissioners of an annual appropriation sufficient for maintenance, while large sums are annu-

ally voted by the State for permanent improvements. In the case of Ontario, however, as has been shown the lands have neither been acquired, improved nor maintained by monies supplied by the Province, but the whole burden of providing for the outlay for all purposes devolved upon the Commissioners.

It now remains to show the methods adopted by the Commissioners to meet these heavy annual charges and the gravamen of the adverse criticisms referred to appear to be chiefly aimed at the principle of granting certain rights or franchises within the Park for the purpose of raising the necessary funds. The franchises granted are three fold; viz: (1) For an electric railway (2) For a restaurant, photograph gallery and the privilege of operating an elevator to go under the Falls (3) For utilizing the water power of the falls for generating electrical energy.

These will be briefly considered in the order in which they are placed.

Owing to the great length of the Park domain extending from Chippewa to Queenston, a distance of nearly twelve miles, every portion of which is full of historic interest, and scenic grandeur, it was vitally important that all the objective points should be reached by an electric railway so that tourists might be able to visit every point at a reasonable cost. This was accomplished by inducing capitalists to construct an electric railway, the Commissioners granting the right to lay a double track through the Park and on the Chain reserve, for which they receive \$10,000 per annum. This line of railway has now become part of a belt-line system, giving visitors the magnificent views from the highland of the river bank on the Canadian side, together with the Niagara Glen and Queenston Heights Parks and the intermediate gorges descending to the river all within the Park domain and returning on the American side by the Gorge Railway, thus enabling visitors to view the banks and rapids from the lower levels. Whether the granting of this charter with permission to pass through the Park can, under the circumstances stated, be characterized as an act of vandalism, the Commissioners are quite content to leave to the verdict of the millions of visitors who have passed over this railway in the past ten years. That it has been a great boon to visitors both pecuniarily and visually in enabling them to view all points of interest with ease, comfort and satisfaction is almost universally admitted.

From a financial standpoint it is satisfactory to know that up to the present time the Commissioners have received over \$110,000 from this franchise.

To those who visited the Falls of Niagara under conditions existing prior to the regime of the Commissioners it will be remembered that the surroundings were disfigured by unsightly structures of various kinds, and visitors had to run the gauntlet of cab drivers and hotel runners in order to see the cataract or come within the scope of its influence. When the Commissioners assumed control of the property all these unseemly surroundings were dispensed with and visitors were permitted to roam at will throughout every part of the Park domain freed from all annoying importunities and interruption. For a great many years one of the attractions of Niagara Falls which appealed strongly to certain classes of visitors was a pilgrimage under the Falls, or sheet of water as it was then called, and

having photographs made showing the pilgrims encased in the oiled suits required for protection when under the heavy curtain of water. On the establishment of the Park, the Commissioners deemed it best to continue this interesting feature, and after providing improved means of access these privileges together with that of supplying refreshments to visitors were leased, subject to rigid regulations, for \$8,200 per annum. This franchise granted directly in the interests and comfort of visitors has produced over \$100,000 up to the present time.

The production of electrical power as a means of providing revenue has perhaps more than anything else been characterized as vandalistic in its ultimate effects on scenic conditions in the Park.

It should be borne in mind that at the time the Park was established the science of producing electrical energy for motive purposes was practically in its infancy, the first Electrical Street Railway in America having been put into operation in 1887. It was only when the practicability of transmitting electrical power had assumed shape that the matter was considered by the Commissioners as a possible means of obtaining revenue. The Commissioners do not claim that they acquired the portion of the Park lying south of Cedar Island looking to the utilization of this portion of the property as being eminently suited for this purpose. They do claim, however, that their recommendation to the Government which brought about the acquirement of this additional property has resulted in the greatest pecuniary advantage. Had the property not been expropriated when the Park was founded, viewing it now in the light of what has transpired on both sides of the river—that part of the property would doubtless have been acquired by capitalists and laid out as a manufacturing district without reference to its scenic environments, as has been done on the American side of the river north of the steel arch bridge, to the irreparable disfigurement of the river bank. On the other hand, had it been expropriated after its capabilities as a centre for production of electrical power on a large scale had been demonstrated, it is quite probable that the price of such expropriation instead of the original cost of \$100,000 would have been many millions of dollars, determinable only by the capitalization of the revenue obtainable from possible electrical franchises.

Coming now to the charge that the Commissioners have, in granting certain power privileges, committed acts of vandalism that will ultimately ruin the scenery of Niagara Falls, the Commissioners have to state that with the exception of the Ontario Power Company's Power House in the gorge under the Falls, hereafter referred to, all the proposed works connected with the generation of electricity are practically beyond the territory originally designed for park purposes. When the electrical power works are completed, not a single view of the Falls, rapids or gorge under the Falls will be obstructed in the slightest degree. On the contrary the filling in of the shore line above the Falls by excavated material from the tunnels will increase the Park area very considerably and will permit of roads and walks being constructed on the margin of the river which will greatly improve the views of the Upper Rapids, and at the same time cover the foreshore which in some places has become exposed by the recession of the waters, owing to the breaking away of the cataract. The waters forming

the Dufferin Islands will be completely restored and improved by the construction of cascade and miniature falls, and besides, the area at that congested point in the park will be considerably enlarged. The unsightly iron and wooden bridges will be removed and solid masonry structures substituted, and when all the works are completed the Park surface from the Falls running south will all be laid out and improved to correspond with the completed Park overlooking the Falls.

Respecting the construction of the Ontario Power Company's power house in the gorge under the Falls, the Commissioners of the State Reservation made representations to the Board in July last and were granted a hearing with particular reference to the erection of the structure at that location. The contention of the Commissioners of the State Reservation being that the building would not only disfigure the landscape as viewed from several points in the American Reservation, but would also be objectionable from an aesthetic standpoint and at variance with the natural conditions desired by the Commissioners on both sides of the river.

On the other hand it was shown by the Canadian Commissioners that the location of the building in question would present no obstruction to the free views of the Falls or river from any point on the American side, and as the building would be far below the surface level of the Park, a portion of the roof and the two gable ends will be the only parts of the structure that would be seen from any point of view within the Queen Victoria Park. It was further pointed out that to make the building in any sense a conspicuous or objectionable feature of the landscape would depend solely upon the design and character given to it. Should, for instance, the building be designed upon the lines of the power house on the American side near the Steel Arch bridge, the public would have some grounds for complaint, but so far from the Commissioners sanctioning such a structure they have made the most stringent provisions to secure the highest degree of artistic treatment in outline, color and design which it is possible to secure, and they have no hesitation in asserting that upon the completion of the power house, with its facade covered by creepers and relieved by evergreens, and a roof harmonizing in color with the high limestone cliff forming the background, it will be found that not only will the structure itself be unobtrusive and entirely unobjectionable from every point of view, but that no violence will be done to the environment of the great Cataract.

The Commissioners have also arranged for the early removal of the large and unsightly building which is so conspicuous from the American side, and which was originally constructed for a museum but which has recently been used for a restaurant and shelter building. The removal of this structure which has formed quite a striking feature of the Park, and the substituting of a modern refectory near the centre of the picnic ground, will remove from the Park one of its most objectionable features, and more than counterbalance any temporary disfigurement which the construction of the power house in the Gorge may cause.

All of the works and structures connected with the electrical power projects have been designed with the object not only of doing the least possible injury to scenic conditions, but the Commissioners are confident in the belief that when the several works are completed, the consensus of opinion

by the vastly increased numbers of visitors that are expected to visit the Park will abundantly sustain them in their contention that the Park as a whole, with its wealth of electrical machinery, will then be of ten-fold greater interest to the great majority visiting it; and in addition not only will the immediate locality beyond the Park be built up into one of the great manufacturing centres of the world, but the quickening impulse and vivifying effects of the world's latest and most perfect form of energy—created and sent forth by the Falls of Niagara—will be felt from end to end of the Province.

In their annual report for 1901 the Commissioners outlined the changes which had been made in respect to the several agreements entered into whereby the Canadian Niagara Power Company and the Ontario Power Company of Niagara Falls were authorized to utilize a portion of the enormous water power of the Niagara River at the Falls for commercial purposes, and the nature and effect of the changes made in these agreements in their relation to the development of the Park design were at that time fully explained.

During the past year the Canadian Niagara Power Company have energetically prosecuted the important works connected with their enterprise and the greater part of the excavations required for the first instalment of power called for in their agreement, including the driving of the tunnel to carry away the waste water, have now been practically completed and a beginning has been made on the construction of the foundation walls of the power house. The Company has recently decided to go on and complete all the excavations necessary for the extension of the wheelpit, forebay and tunnel to the full extent contemplated for their maximum output of 100,000 electrical horse-power. The completion of this excavation will permit, greatly to the advantage of the Park, of the permanent restoration of the grounds in the vicinity of the works at a much earlier date than would otherwise be the case, or than was contemplated when the work was begun.

Under the agreement made with this company on 19th June, 1901, the Commissioners required that a forfeitable deposit of \$20,000 be made by the company to be returned should the company on or before 1st July, 1902, satisfy the Commissioner of Public Works for Ontario that :

(a) The sum of \$250,000 had been actually expended in the Province upon works, and in plant and materials used in carrying on the works contemplated by the agreement, and

(b) That it had expended or contracted to expend on or before 1st July, 1903, on these works, including machinery and appliances, the sum of \$1,500,000.

It having been shown to the Honorable the Commissioner of Public Works that the company had fulfilled both of these conditions, the \$20,000 deposited was returned to the company.

Under the agreements entered into with this company, provision was made for the construction of an ornamental steel truss bridge to carry the electric railway tracks and the new Park driveway over the intake leading the waters of the river to the works of the company. In preparing the designs for this bridge the commissioners considered it would be more in har-

mony with the environment to have a solid stone structure and to substitute arches of concrete and steel, faced with limestone, similar to the beautiful bridge erected by the Commissioners of the New York State Reservation between Prospect Park and Goat Island. The chief officials of the company realizing the importance of having the surroundings of their power station conform to the aesthetic requirements, accepted the suggestion, and this work is now well under way, although the cost to the company is considerably in excess of the original design.

A detailed statement of the works which have been carried on by this company during the year will be found in the report of the Superintendent of the Park appended hereto.

The Ontario Power Company made application early in the summer for an intake from the Niagara River above the Dufferin Islands in addition to the rights which had been granted them to conduct the waters of the Welland River by an open canal to and through the Park for the generation of electrical energy in a power house located below the Falls. Before granting any additional privileges to the company the Commissioners made a very careful survey of all the provisions of the several agreements which had been made in relation to the projects of the company with a view of securing the best possible results both in respect to the artistic features—the works being located in a public park—and to the financial position as well.

Upon mature consideration the Commissioners made the following stipulations an indispensable condition to the granting of any further rights or privileges, namely :

1. That the open hydraulic canal through the Park should be abandoned and all the works of the company north of the intake should be put under-ground.

2. That there should be no elevated forebay with gatehouse structure north of Table Rock house, but that the surface levels of this contracted portion of the Park should be restored to the original condition after the conduits or water pipes were laid.

3. That the penstocks should be carried down from the supply pipes to the power house by means of shafts and tunnels cut through the rock.

4. That the privilege of constructing a power house in the Park near the gravel pit, as provided in the agreement of 11th April, 1900, should be cancelled.

5. That the forebay works at the Dufferin Islands should be so constructed as to greatly improve and in no way mar the scenic beauty of the islands.

6. That the rental should be increased to \$30,000 a year as a minimum payment for any quantity of power under 20,000 electrical horse-power with the additional payment of \$1.00 per horse-power for all sold above 20,000 up to 30,000. 75 cents per horse-power for all above 30,000 up to 40,000, and 50 cents per horse-power for all power sold or disposed of above 40,000 electrical horse-power.

After protracted consideration and negotiations the Commissioners and the company reached an agreement on the 28th June embodying all of these conditions and granting to the company authority to take water for power purposes from the Niagara River near the extreme southerly limit of the Park, and by means of an intake and forebay constructed in the bed of the river east of the Dufferin Islands lead the waters of the river to a gatehouse located near Cascade Point and thence by means of conduits or pipes concealed beneath the surface of the ground conduct the water around the rear of the Park to north of Table Rock House, and from this point be distributed by means of penstocks to the water wheels in the power house under the cliff.

As the agreement could have no force or effect until approved by the Lieutenant Governor-in-Council, strong opposition to its being so ratified was made by the Canadian Niagara Power Company, and a hearing was given all the parties interested before the Government on July 22nd and on the 2nd August before the Commissioners to the representatives of the Canadian Niagara Power Company. As, however, the arguments advanced in opposition to the granting of the franchise did not commend themselves to the Commissioners or the Government, the agreement was finally validated by Order-in-Council on the 7th August. The Order-in-Council imposes a condition that all plans submitted to the Commissioners for approval should be first approved by His Honor the Lieutenant-Governor-in-Council.

Shortly after the delivery of the agreement the company submitted plans for a coffer dam to unwater the river bed at the site of their intake and forebay. The construction of that work has proved of great interest to the public generally, as it demonstrates the facility with which the waters even of the Niagara River may be trained to flow in any desired direction, and some very interesting characteristics of the strata forming the bed of the stream above the Cascades have been revealed. The construction of this coffer dam has also afforded a valuable opportunity for the study of the currents of the river and the effect upon the surface levels of the water at points lower down the stream. The text of the agreement will be found in the appendix to this report.

Shortly after the granting of these additional privileges to the Ontario Power Company, application was made on behalf of Messrs. William Mackenzie, H. M. Pellatt and Frederic Nicholls for a site in the Park on which to develop electrical and pneumatic power on a large scale.

The location proposed for the works was "Tempest Point" midway between the works of the Canadian Niagara Power Company and the Ontario Power Company.

Before entering into negotiations with these gentlemen, the Chairman of the Commission prepared for the consideration of the Board a memorandum, which will be found in the Appendix to the Report, clearly setting out the questions involved, and which in his opinion would require to be settled before proceeding with the negotiations. This memorandum was submitted to the Government, and it was decided that a hearing should be given to the two companies holding franchises to develop power in the

Park in order to ascertain what objections they might have to the granting of further rights for this purpose. The interested parties were cited and the hearing given by the Government on 19th December last, when it became apparent that a great divergence of opinion existed between the hydraulic engineers of the Canadian Niagara Power Company, the International Railway Company and the engineers of the applicants.

In order to determine precisely the nature of these opinions, the several parties were invited to reduce to writing the arguments used at that meeting. Upon the reception of the written briefs the Government considered it judicious to furnish each of the parties with copies of the reports and arguments advanced by the others for such criticism and rejoinder as might be considered necessary. When all these reports and memoranda were received, the Commissioners, with the approval of the Government, engaged two eminent hydraulic experts to examine into all the questions at issue and to report fully upon the arguments set out in the respective briefs.

The engineers selected were Mr. Isham Randolph, C.E. (Chief Engineer of the Sanitary District of Chicago, a work in the construction of which over \$35,000,000 has been expended), and Mr. Robert C. Douglas, Hydraulic and Bridge Engineer of the Department of Railways and Canals, Ottawa. These gentlemen visited Niagara Falls and made as thorough an examination into the physical conditions existing at the present time as was possible, and also examined the works which have been constructed up to this date for the companies to whom franchises have been given.

Upon a full consideration of the reports of these experts the Commissioners came to the conclusion that the flow of the water and the level of the river at the intakes of the Canadian Niagara Power Company and the International Railway Company would not be materially affected by the proposed works of the applicants, as these were outlined in the plans submitted, and the Government authorized the Commissioners to conclude an agreement with Messrs. Mackenzie, Pellatt and Nicholls on the same general principles as obtained in the other agreements made, and this has been concluded and confirmed by Order-in-Council since the close of the year.

The text of the agreement entered into together with the arguments and briefs of the Solicitors, and the opinion of the hydraulic experts called in by the Commissioners, will all be found in the appendix to this report.

Shortly after the completion of the agreement entered into with the Mackenzie, Pellatt and Nicholls Syndicate, the Honourable, the Premier, requested the Board to furnish the Government with a report from a hydraulic engineer of high standing upon the locations above the Falls, and also in the Rapids of the Lower Niagara, where, in addition to the rights already granted, electrical power upon a large scale could conveniently be developed.

The Premier also desired the Commissioners to obtain an authoritative report upon the cost of transmitting electrical energy to cities and towns in Ontario within a reasonable distance of Niagara Falls, showing the probable cost of constructing the lines, the estimated loss in transmission, and the

probable cost of maintenance. After due consideration and inquiry, the Commissioners decided to engage Mr. Isham Randolph, C. E., of Chicago, whose eminence as a hydraulic engineer has been already referred to in this report, and who, in order to advise the Board in respect to important engineering questions relating to power development at Niagara Falls, had carefully studied the hydraulic conditions of the river within the Park.

In order to make himself thoroughly familiar with the broader questions now submitted for his consideration, Mr. Randolph again visited Niagara Falls, and made an extended examination into the physical characteristics of the river, both north and south of the present Park limits.

Mr. Randolph's report, which will be found in the appendix, demonstrates very clearly that the available sites for water-power development on the Canadian side of the river have not been exhausted by the rights and privileges already granted by the Commissioners, but that there are several points where power may be developed upon as large a scale as the plants now under license, and at a cost not materially in excess of those plants.

One of the locations referred to in his report is quite close to the Falls, and north of the intakes of the several companies licensed, but the powerhouse is designed to be subterranean, and nothing but a small building, to enclose an elevator, would appear on the Park surface. The other locations are all south of the Park limits, and would be upon the general lines adopted by Messrs. Mackenzie, Pellatt and Nicholls for their development.

In addition to these major projects, Mr. Randolph confirms the opinion given in the Twelfth Annual Report of the Commissioners, that there are several locations along the course of the river below the Falls where water-powers may advantageously be developed, although these will necessarily be upon a less extensive scale than at the Falls proper.

Mr. Randolph's report, therefore, sets at rest the newspaper opinion that the granting of the concessions already made has exhausted the field for power development at Niagara Falls, and that municipalities and other consumers of electric power will, for all time, be at the mercy of a possible combination of the licensed companies.

The Commissioners, however, are of the opinion that further rights should not be granted until it is shown that a combination having for its object an undue increase in the cost of power is either possible or probable.

The plans of the three companies now exercising their franchises contemplate such a large output of electrical power that, as has been already shown, there is no likelihood of anything like the demand being for many years equal to the supply, and consequently the tendency will be to compete for the business offering.

As any power development at Niagara Falls necessarily involves a very great initial outlay, with consequent high interest charges per H. P. until a large amount of power is sold, the Commissioners recommend that the companies now developing under their several agreements should be given an opportunity to complete their works before other privileges on a large

scale are granted, unless it can be shown to be in the public interest to grant such additional privileges.

Respecting the selection of an electrical engineer of large experience to report upon the construction and operation of lines for the transmission of electrical energy from Niagara Falls to cities and towns in Ontario, within a radius of 100 or 150 miles from the Falls, the Commissioners decided, after careful investigation, to secure the services of Mr. L. L. Nunn, of Telluride, Colorado, to furnish them with a report upon this important subject. Mr. Nunn is the General Manager of the San Miguel Consolidated Telluride Company and Telluride Power Transmission Company; General Manager Logan Power Company, Logan, Utah; General Manager the Power Company, Logan, Utah; General Manager, the Power Company, Norris, Montana; and he is credited with being the first man to successfully demonstrate the practicability of long-distance high-tension transmission.

Mr. Nunn's report, which will be found in the Appendix to this Report, affords a very interesting statement of the conditions affecting this vastly important subject, and will be found of great value at the present time.

The various field works which have been carried on during the year are referred to at length in the accompanying report of the Superintendent of the Park.

The following statement will show the receipts and disbursements for the year :

Receipts.

The Ontario Power Company. Rental.....	\$30,000 00
The Canadian Niagara Power Company. Rental	15,000 00
The Niagara Falls Park and River Railway Company. Rental..	10,000 00
The Fort Erie Ferry Railway (Rental for 3 months)	250 00
Zybach & Company.....	8,200 00
Wharf privileges	422 00
Tolls.....	1,167 20
Sales of old materials and sundries.....	219 96
	<hr/>
	\$65,259 16

Expenditure.

Paid Imperial Bank overdraft for 1901.....	\$2,704 39
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Capital Account.

Paid for permanent improvement, including	
cost of materials.....	\$2,055 07
Paid wages of mechanics and laborers	2,616 46
Paid for land purchases	917 18
	<hr/>
	\$ 5,588 71

Maintenance Account.

Paid salaries and wages, including wages of	
terms, laborers, etc	\$16,283 22
Paid cost of materials	3,130 79
Paid office expenses	289 65
Paid Commissioners' expenses	879 72
Paid miscellaneous	483 55
	<hr/>
	\$21,066 93
	<hr/>
Paid interest on Bonds and Bank Charges.	\$26,655 64
Balance at Imperial Bank.....	24,188 28
	<hr/>
	11,710 85
	<hr/>
	\$65,259 16

All which is respectfully submitted.

J. W. LANGMUIR, Chairman.
 GEORGE H. WILKES.
 JAMES BAMPFIELD.
 A. W. CAMPBELL.
 ROBERT JAFFRAY.

APPENDIX "A."

Report of the Superintendent of the Park, being for the year ending December 31st, 1902.

To the Commissioners for the Queen Victoria Niagara Falls Park :

Gentlemen,—The past year has been an eventful one in the history of the Park. In the report for 1901 the early operations of the Canadian Niagara Power Company were referred to as marking a new era in connection with Niagara Falls, but 1902 has witnessed the beginning of operations by the Ontario Power Company, whose works are designed upon even a larger scale than those of the Canadian Niagara Power Company. In addition to these two gigantic concerns a franchise has recently been granted to a syndicate of Toronto capitalists who purpose taking immediate steps to rival if not excel the other companies in the magnitude and completeness of its work, so that for all future time the history of the Park seems to be inseparably connected with the utilization of the water power within its borders for the creation of electrical energy on a scale hitherto undreamed of.

POWER DEVELOPMENT WORKS.

The Canadian Niagara Power Company.

During the year the Canadian Niagara Power Company have vigorously carried on their several works for the development of power. The great tunnel designed to carry away the exhaust water from the water wheels to the lower river, and which was but well begun at the beginning of the year, has been driven through from the shaft both ways to the portal below the Falls on the north, and to the wheel pit on the south, a total length of 750 yards. The contractor for the tunnel work succeeded in driving his southerly heading up to the line of the wheel pit before the latter work had been excavated down to the corresponding level. In order to expedite the work it was therefore decided to extend the tunnel in below the wheel pit excavation, and this work is now under way, the cutting being made of somewhat greater dimensions in order to form the lower part of the wheel pit. A great deal of extra work is required at the bottom of the wheel pit in addition to the simple sinking of the excavation, and it is expected that all this work will be completed by the time the wheel pit is sunk down to the level of the crown of the tunnel. The wheel pit is a great chasm, 266 feet long by 21 feet wide, cut in the rock with masonry arches, girders and other appliances for supporting the penstocks and wheels as well as the enormous electrical machines which are to generate the electric power designed by the company for commercial purposes.

As it was deemed essential that the walls of the wheel-pit should not be shaken by the effects of the explosives used, channelling was resorted to, which, although a slower process than drilling and blasting, was considered preferable. A narrow and continuous channel in the rock following the outline of the excavation required is first cut downwards and a little outwards by channelling machines running along each side of the excavation. These travel on rails and make a two-inch clean cut separating the rock walls from the mass it is desired to remove to below the level of the bench or step determined on, which in this case is six feet in depth. Holes

are then drilled from cut to cut across the 21 feet of intervening rock and the mass is shattered by dynamite and afterwards removed from the excavation. This work has made very good progress, and the sinking of the northern half of the wheel-pit has been carried down an average depth of nearly one hundred feet.

Late in the season the company decided to go on and excavate the remaining half of the wheel-pit to the full extent required for the installation of the 100,000 horse-power for which the plant is designed, and to complete the works required to make the intake and forebay of the full dimensions contemplated by the agreement instead of water connections for only one-half of the total to commence with. This decision on the part of the company is clearly of great advantage to the Park, as it insures a much more speedy and permanent restoration of the surface of the grounds contiguous to the works, which would of necessity be torn up and destroyed by any succeeding expansion. Some difficulty may, however, be experienced in finding space in the park for the large additional quantities of materials to be removed, and a considerable proportion of the rock excavated may have to be taken out of the Park, as provided in the agreement. Up to the present the material excavated has been used for various purposes, viz., to fill up the low ground west of Cedar Island, to extend the portion of the shore line shallowed by the recession of the Falls out to deep water, and to cover the exposed shale at the base of the Falls to prevent its rapid wearing away. A large quantity has also been taken off to make a filling at the crossing of the electric railway over the Whirlpool Ravine, and several thousand cubic yards have been broken to form concrete for the lining of the tunnel.

BRIDGE AT INTAKE.

By midsummer the excavations at the site of the Canadian Niagara Power Company's intake had been carried down to solid rock, and the construction of the bridge to carry the Electric Railway and the main Park driveway was begun. This bridge was first designed to be of ornamental steel trusses, supported by stone abutments with a centre pier. Acting, however, upon the suggestion of the writer, the company have substituted a concrete arch bridge reinforced by steel ribs and faced with cut stone masonry. The parapet walls are to be of rock-faced masonry, and the bridge, which will consist of five spans of fifty feet each in the clear and have a total width of about fifty feet, will when finished be a very handsome feature of the Park.

INTAKE FOR ELECTRIC RAILWAY AND TOWN WATER SUPPLY.

The filling out from the shore to deep water by the Canadian Niagara Power Company necessitated a new intake for supplying the flumes of the Electric Railway and the town waterworks. In each of these cases the supply of water has of late become quite inadequate, owing in part to the rapid current carrying stones and gravel to the entrances of the flumes, which were very contracted in area, and in part to the lowering of the margins of the river by the receding of the contour of the Horse Shoe Fall. In preparing plans for

new intakes it was deemed best by the respective parties to have one large opening from the river, instead of two small ones as before and to slow up the velocity of the water passing through to the existing flumes in order to relieve the difficulty experienced from ice. The plans approved by the Commissioners provide for five openings of 21 feet each between piers, these openings to be protected by heavy steel racks secured to the Portland cement concrete masonry piers and containing walls. The main Park driveway will be carried over this intake by a steel deck bridge with a span of about eighty feet. The Electric Railway Company are to provide the bridge; all the other work, including the deepening of the area enclosed by the intake walls, is at the expense of the Canadian Niagara Power Company. The contractors for this work have made very slow progress, and it will not be completed until the spring.

THE ONTARIO POWER COMPANY.

Under the terms of the agreement made with this Company on 11th April, 1900, work was commenced in the Park in April last by making an initial cutting along the centre line of its proposed open canal from the gravel pit northwards to near the Electric Railway Power House. Work was also begun outside the Park and several test holes along the line of the waterway from the Welland River were put down to the required level.

NEW AGREEMENT.

Before much progress had been made on the works within the Park the company found it desirable to change its plans, and made an application for an intake and supply from the Niagara River above the Dufferin Islands. This privilege to be supplementary to the Welland River works, but development from the Dufferin Islands works to be first carried out. After negotiations an agreement was made under date of 28th June granting the desired privileges. By the terms of this agreement the right to construct an open canal through the Park was cancelled and a stipulation made that all the water required by the company from either the Welland or Niagara Rivers should be conveyed under the surface of the Park in conduits or pipes, and that no part of the Park surface should be occupied by a canal or forebay.

EXCAVATIONS AT SITE OF POWER HOUSE.

Upon the execution of this new agreement, work upon the open canal was suspended, and the Company concentrated its efforts upon clearing away the loose rock forming the talus from the site of the Power House in the lower river gorge. This difficult work proved of great interest as the rocky face of the chasm was uncovered to the level of the water in the lower river, and the outermost line of solid rock indicated where the cataract had hewn its way when some centuries younger than at the present time. The excavations for the first section of the building were completed before the close of the year, and a beginning was made upon the excavations on the upper Park level for the conduits or pipes near the Table Rock House. As this portion of the Park

is usually thronged by visitors in mid-summer, it is very desirable that as much of the work as possible requiring to be done at this point should be completed before July.

COFFER DAM.

Subsequent to the conclusion of the new agreement authorizing the company to take water from the Niagara River, application was made for approval to plans for a coffer dam to shut off the waters of the river and lay bare the river bed at the site chosen for the intake and forebay, extending from the Dufferin Islands up-stream to the southern boundary of the Park. This work was begun in August and completed by November, and it has also been of very great interest to the public generally owing to the variety in the conformation of the strata forming the bed of the stream and which owing to the swiftness of the current had been swept clean for ages. The coffer dam was commenced at the point where the easterly limit of the Park intersects the edge of the river, and running out into the stream about twenty feet turns at a right angle and runs in a direct line with the intake of the Canadian Niagara Power Company for a distance of over two hundred yards, when it curves outward and terminates near the line of the first cascade a total distance of about 250 yards. The construction of this coffer dam shut off all the water flowing in and around the Dufferin Islands, and thousands of visitors have been attracted by the strange spectacle. The company have not yet begun the permanent works incidental to the intake or forebay, but the engineers of the company expect to have these works so far completed that the waters of the river will be restored to their usual channels by mid-summer.

FORT ERIE RESERVE.

The Government of the Dominion having granted a lease to the Commissioners of the reserve of thirteen and a half acres about the ruins of Fort Erie, on condition that the property be cared for as part of the Park system, the Commissioners took possession and decided to fence off the grounds, which have been an open pasture field for many years; turned cedar posts for an ornamental wire garden fence have been set out along the front, and on the south unturned posts of cedar for a simple field fence have been placed in position. Owing to delay in obtaining the desired separating rails the fencing is not yet completed. In the spring a beginning will be made towards putting this historic ground into proper condition.

GENERAL MAINTENANCE.

The spring and summer of 1902 were characterized by an unusual amount of precipitation, heavy snow falls in the earlier months and frequent rains throughout the summer. This climatic condition was most favorable to the Park, as in many places the soil is but a few inches in depth, and in dry weather both grass and shrubs suffer in consequence. Throughout the whole of last season, however, the verdure was remarkably fresh and the trees and shrubs were never seen to such advantage. The very heavy cartage of materials required in the new power works, owing to the excessive moisture, cut up the Park driveways and made it difficult to maintain them in good condition.

A considerable shipment of new herbaceous shrubs was added to our collection. These were put in the nursery to mature before setting out in the Park.

QUEENSTON HEIGHTS PARK.

The heavy repairs to the shaft and pedestal of Brock's Monument, which were referred to in last year's report, were carried out in the early summer, and this noble monument is now in good repair. It was, however, found impossible to take down the dwarf wall enclosing the monument, and this remains to be taken in hand.

The densely wooded background, which surrounded the earthwork redoubts, has been cleaned up, and the sunlight allowed to penetrate. Much of this undergrowth was of evergreens, and the crowding had forced the growth to the tops, with the result that any heavy snow fall lodged in the tops and bent and broke them in all directions, while the lower limbs for want of light and room to develop had perished. In a few years it is hoped that this historic ground may be restored to a Park-like appearance and every part of it made accessible to visitors.

NIAGARA GLEN.

The pathways opening up this widely diversified portion of the Park were maintained throughout the season, and new ones built in order to provide access to other points of interest. This unique glen is yearly becoming better known, and visitors in increasing numbers are availing themselves of the facilities which have been provided since the property was acquired by the Commissioners.

CHAIN RESERVE.

The Chain Reserve along the shore of the Niagara River between Slater's Point and Fort Erie continues to suffer from the eroding action of the river. The company which obtained a franchise to construct an Electric Railway along this reserve, and as compensation in part undertook to provide protecting works, has not as yet done anything in this connection. The roadway having at several points become dangerously narrow, additional lands have been secured and the driveway set back in such a manner as to afford abundant room for present requirements. There are, however, several additional points where greater width is needed, and these will require attention in 1903.

The whole respectfully submitted.

JAMES WILSON,
Superintendent.

AGREEMENT OF 28TH JUNE, 1902, BETWEEN THE COMMISSIONERS AND THE ONTARIO POWER COMPANY.

This Agreement, made this 28th day of June, 1902, between the Commissioners of the Queen Victoria Niagara Falls Park, acting herein on their own behalf and with the approval of the Government of the Province of Ontario, and hereinafter called the "Commissioners," of the first part, and The Ontario Power Company of Niagara Falls, incorporated by the Parliament of Canada, and hereinafter called the "Company" of the second part.

Whereas the company, on the 29th day of November, 1901, did obtain the sanction of the Minister of Railways and Canals to the plans and surveys of works proposed to be built by the company, of a Canal and Hydraulic Tunnel, from a certain point in the Welland River to the boundary line of the Queen Victoria Niagara Falls Park, and also, on the 20th day of February, 1902, did obtain the sanction of the said Minister of Railways and Canals to the plans and surveys of works proposed to be built by the company, of a Canal and Hydraulic Tunnel, from the said boundary line of the said Park and through the same to a point of discharge on the west bank of the Niagara River below the gorge, whereby the waters of the said Welland River can be led through the Queen Victoria Niagara Falls Park for the purposes of supplying power for use in manufacturing or any other business or purpose by means of the discharge of such water in the Niagara River, in accordance with the powers given by the Act of Canada, 1887, chapter 120, and its amendments as then enacted by the Parliament of Canada, and which said plans and surveys are filed and are of record in the Department of Railways and Canals of Canada at Ottawa.

And whereas the Lieutenant-Governor of Ontario, on the 23rd day of April, 1902, by Order-in-Council, and the Commissioners by the several agreements of 15th August, 1901, hereinafter recited, subject to conditions, provisions and stipulations, did consent that the works of which the plans and surveys so sanctioned by the Minister of Railways and Canals, as above recited, be constructed within the limits of the Queen Victoria Niagara Falls Park, and also that the powers given by the Act of Canada, 1887, chapter 120, and its amendments or any of them, to the company, as therein enacted up to the date of the aforesaid sanction by the Minister of Railways and Canals, may be exercised within the limits of the said Park, in accordance with three separate agreements heretofore entered into between the parties to this agreement, and severally bearing date as follows: First, on 11th April, 1900; second, a supplementary agreement on 15th August, 1901, and third, an Ancillary Agreement on the said 15th August, 1901, whereby the conditions, provisions and stipulations entered into between the parties with the consent and approval of the Lieutenant-Governor-in-Council as aforesaid are duly witnessed and agreed upon, as well by force of the powers vested in the Commissioners under the Act of Ontario, 1899, chapter 11, and Section 36, as by any other powers vested in the Commissioners and exercisable by or with such approval as aforesaid.

And whereas the company, on or before the 11th day of April in this present year (1902), pursuant to paragraph 2 of the said supplementary

agreement, and in observance of the terms of paragraph 31 of the agreement of 11th day of April, 1900, did begin to construct the works as laid down upon the map or plan annexed to the supplementary agreement of 15th August, 1901, entitled "Amended Map of the Ontario Power Company's Works in the Queen Victoria Niagara Falls Park" and lettered "B."

And whereas the parties to these presents have agreed that the company may take an additional supply of water to be obtained by an intake from the Niagara River under the powers contained in the before in part recited Act of Ontario, 1899, chapter 11, and Section 36, at a certain defined point, for the purpose of generating electric or other power, as in the Act of Canada, 1887, and its amendments specified, by means of the works located and defined in the aforesaid supplementary agreement.

And the parties have also agreed, as by these presents defined, on provisions whereby the supply of water for the purposes of generating electric or other power as aforesaid, whether such supply be obtained from the Welland River as already agreed, and provided by the agreements previously in part recited, or from the Niagara River as by these presents provided, shall be led through the Park by means of conduits or pipes as hereafter specified. And have also agreed for one rental being payable in manner and at the periods hereinafter specified by paragraphs 10 and 11 of these presents, for the enjoyment of all the rights and privileges by this or the previous agreements granted and conferred upon the company. And have also agreed to surrender, as by the execution of these presents it is testified are surrendered the rights of the location and construction of works relating to the "first development," as described and provided by the aforesaid agreement of 11th April, 1900, notwithstanding any matter relating thereto, contained in the supplementary agreement of 15th August, 1901, and for convenience the expression in these presents of Niagara River Intake shall mean the right granted to obtain water by these presents and the expression of Welland River Intake shall mean the rights acquired to take water as described in and by the agreements previously in part recited.

Now, Therefore, This Agreement Witnesseth, as follows, that is to say:

1. For the purpose of generating electricity and pneumatic power, or any other power within the Acts of Incorporation of the company, to be transmitted and capable of being transmitted to places beyond the Park by means of the works described in paragraph 2 of the hereinbefore in part recited supplementary agreement of 15th August, 1901, indicated on the map or plan thereto annexed, entitled, "Amended map of the Ontario Power Company's works in the Queen Victoria Niagara Falls Park," and lettered "B."

The Commissioners hereby grant to the company, subject to the consent and approval of the proper authority and save as hereinafter limited, a license irrevocable to construct upon or in the natural channel or bed of the Niagara River an intake and forebay by means of which water may be taken from the Niagara River and conducted through conduits or pipes or tunnels through the Park to or near the point marked "L" in the map or plan hereto annexed marked "C", and from such point be continued in lines parallel with and adjacent to the conduits or pipes which may be required to lead the waters of the Welland River intake to the power house,

situate in the gorge below the Falls, in accordance with the supplementary agreement of 15th August, 1901, hereinbefore in part recited, and as located by map or plan "B" annexed to said supplementary agreement, and by means of conduits or pipes, as hereinafter more particularly specified, in lieu of the open channel and forebay as by the said map or plan "B" appears and is laid down. The works to be done in relation and to carry out the rights granted as the Niagara River Intake to be as shown in pink on the map or plan marked "C", entitled "Revised plan of works of the Ontario Power Company's works in the Queen Victoria Niagara Falls Park," and hereto annexed and subject to provisions hereinafter contained, and to all other provisions of law to be observed in exercising the said franchise or the works required for its development. Provided also that these presents are not to be construed as expressing or implying any covenants by the Commissioners for title or quiet possession.

2. The said map or plan marked "C" hereto annexed is identified by the seals and signatures of the parties hereto.

3. The several works which the Company are by these presents authorized to perform and do may be more particularly described as follows, reference being made throughout to the above described map or plan marked "C", which is attached to and forms part of this agreement;

(1) From a point at or near (A) to a point at or near (B) to construct a permanent rack and ice fender.

(2) From a point at or near (B) to a point at or near (C) to construct a concrete wall of sufficient height to impound the water required at an elevation approximately equal to river level at point of intake.

(3) From or near (C) to or near (D) to construct an overflow dam or waste weir of capacity sufficient to draw from the forebay any ice which may pass through the rack into the headrace.

(4) From or near (D) to or near (E) to construct a headblock with gate-house and gates to control water supply to conduits.

(5) From or near (E) to or near (F) to construct a concrete wall of sufficient height to protect the Dufferin Islands from overflow.

(6) From or near (F) to or near (G) to construct an overflow Jam or sluiceway and to regulate the flow of water round Dufferin Islands.

(7) From or near (K) to or near (D) to construct a rack and screen to prevent ice or other objectionable matter entering forebay.

(8) To excavate the bed of the raceway and forebay in order to slow the speed of the water and afford sufficient hydraulic head at headgates.

(9) To construct temporary cofferdams in order that any or all of these works may be properly constructed.

(10) From the gate house (D-E) to construct one or more conduits or pipes through the Park to the point at or near (L) on said map or plan, these conduits or pipes to form a syphon under the lower channel of the Niagara River at the Dufferin Islands.

(11) To construct conduits or pipes from or near the point (I) on said map or plan "C" or where the works of the company to carry the waters of the Welland River are designed to enter the Park to or near the point (II) on plan or so far as the penstock chambers (under the agreements of April 11th, 1900, and August 15th, 1901.)

(12) To construct cascades and overflow dams in the existing channels of the Dufferin Islands to preserve the surface levels of the several streams under a restricted flow of water.

4. The works hereinafter specified and embraced in the following subsections (a) to (j) inclusive, and authorized by the Commissioners to be done and executed by the company by these presents and the manner in which the same may, from time to time, be proposed to be performed or varied shall, before being commenced, be submitted by the company to the Commissioners accompanied by suitable plans, profiles, specifications and elevations as the case may require, and the scenic and general features thereof shall be approved by the Commissioners in writing. This approval shall in no wise relieve the Company from responsibility for the stability and effectiveness of its works, but it is intended to secure, as far as possible, a degree of harmony in outline and treatment compatible with the location and with the works in a public park. The works to which such approval are required, and shall not be proceeded with without such approval, are the following :

(a) The location of the temporary cofferdam to shut out the waters of the river from the headrace and forebay during construction of the works.

(b) The outline and method of treatment proposed for the walls of the headrace and forebay.

(c) The raising of the northerly shore of the Dufferin Islands.

(d) The overflow dams, weirs, cascades, etc., to regulate the flow of water in the headrace and forebay, and in and around the Dufferin Islands.

(e) The depositing of waste materials from the excavations of the company.

(f) The design and location of the bridge required to carry the Park driveways at the Dufferin Islands.

(g) The conduits or pipes to carry the supply through the Park, including the method of concealing or covering over the same, and the method of syphoning under the lower channel at the Dufferin Islands.

(h) The works and structures for regulating the flow of water at the penstock chambers.

(j) The power house and the means of access thereto, including the filling out into the lower river in front thereof.

5. The company shall remove all good surface soil which may be found at any point where its works are to be constructed and deposit the same in heaps at convenient points as the Commissioners may direct—this good surface soil shall be used as a top dressing for all areas which may be disturbed by the operations of the company, or for covering over any waste

material taken from the excavations of the Company in the Park. Should the quantity of good soil so obtained be insufficient in the opinion of the Commissioners to afford a proper covering for such new or disturbed areas, the company shall obtain from without the Park sufficient good soil for this purpose, but the quantity of good surface soil which the company may be called upon to bring into the Park and use as a covering or top dressing shall not exceed 10,000 cubic yards.

6. Material other than the good top soil above referred to which may be excavated from the works of the company in the Park shall be used for :

(a) Raising the northerly shore of the Dufferin Islands.

(b) Forming new land or islands at such points near the Dufferin Islands as the Commissioners may determine.

(c) Filling out into the river below the Dufferin Islands to lines and levels to be given by the Commissioners.

(d) Filling up the low ground along the line of the conduits to the finished surface level of the Park—such finished surface level to be defined by the Commissioners.

Before depositing any material other than heavy stone rip-rap in rapid water the Company shall first construct a substantial and efficient crib work, facing to the ordinary level of the river, in order to protect the filling from being eroded by the action of the current. The heights, lines, slopes and levels of all filling to be defined by the Commissioners.

7. For the purposes of construction and to remove or receive supplies of materials and machinery, the company may build, subject to the approval of the Commissioners, tramways, and such other appliances and structures as may be necessary for the prosecution of the work, but these appliances are to incommode to the least possible extent the ordinary travel in the Park, and shall be removed as soon as the works for which they are required are completed.

8. The company shall provide and construct one driveway bridge in place of the north Suspension bridge connecting the Dufferin Islands, such bridge to be of concrete steel construction of appropriate design and faced with rock-faced limestone. The bridge to be not less than twenty (20) feet in width of roadway and with a six foot pathway on one side. Should it be necessary to interfere with the present Suspension Bridge before the completion of the new concrete steel structure, temporary wooden bridges are to be provided to carry the traffic.

9. The license hereby granted shall take effect and operate from the day at which these presents shall have force and effect. Under paragraph twenty hereof and for the sake of uniformity in termination of periods with the provisions of the above in part recited agreements previously made by and between the parties hereto, shall terminate on the first day of April, 1950, unless terminated by operation of law or any provisions in this agreement contained.

10. At the time of the signing and delivery of these presents the company will pay to the Commissioners the sum of \$30,000, which shall be accepted and taken as rent in advance up to 30th September, 1903.

11. On and after the first day of October, 1903, the company having duly observed and performed all the agreements and conditions by them agreed to be done and performed, the company shall pay a clear yearly rental of \$30,000, payable half-yearly, on the first days of April and October in each year, and in addition thereto, payment at the rate of the sum of \$1.00 per annum for each electrical horse-power generated and used and sold or disposed of over 20,000 electrical horse-power up to 30,000 electrical horse-power in the year, and the further payment of the sum of 75 cents for each electrical horse-power generated and used and sold or disposed of over 30,000 electrical horse-power up to 40,000 electrical horse-power in the year, and the further payment of the sum of 50 cents for each electrical horse-power generated and used and sold or disposed of over 40,000 electrical horse-power in the year, that is to say, by way of example, that on generation and use and sale or disposal of 40,000 electrical horse-power in any year, the gross rental shall be \$47,500 for that year, payable half-yearly, and so on, in case of further development at the sum of 50 cents for each electrical horse-power as above provided, and that such rates shall apply to power supplied or used either in Canada or the United States. Such additional rental as shall be payable for such generation and sale or other disposition as aforesaid to the Commissioners shall be payable half-yearly at the rate above specified on the first days of April and October in each year for all the power sold in the said several half-yearly periods from the day of sale, and within ten days after the said first days of April and October in each year on which such additional rentals shall be payable respectively the Treasurer or, if no Treasurer, the head officer of the company shall deliver to the Commissioners a verified statement of the electrical horse-power generated and used and sold or disposed of during the preceding half-year, and the books of the company shall be open to inspection and examination by the Commissioners or their agent for the purpose of verifying or testing the correctness of such statement, and if any question or dispute arises in respect to such return or if any statement delivered at any time by the company to the Commissioners of the quantity or amount of the electrical horse power generated and used and sold or disposed of or of the amount payable for such additional rentals, the High Court of Justice of Ontario shall have jurisdiction to hear and determine the same and to enforce the giving of the information required.

Provided always that if any part of the said rent, whether payable under this paragraph or in respect of the renewal term or terms in paragraph 15, shall be in arrear for three months, whether legally demanded or not, the Commissioners, or if not then an existing corporation the Government of the Province may re-enter on the premises or any part thereof in the name of the whole, and thereupon this agreement shall determine, and the remainder of the term then current shall terminate as well as any renewal or renewals thereof which under this agreement may be claimed.

12. And whereas the company has actually deposited to the credit of the Commisisoners in the Canadian Bank of Commerce the sum of \$50,000, with the assent of the Commissioners it is hereby agreed that when the company shall have actually expended the sum of \$250,000 on works upon the grounds within the Park, either on the works known as the Niagara River

intake or known as the Welland River intake and the Commissioners are satisfied of the amount of such expenditure then that the Commissioners will pay the said sum of \$50,000 to the company.

13. This agreement shall be taken to complement the previous above in part recited agreements made between the parties hereto, and all the terms and provisions thereof shall so far as applicable apply to the works authorized by these presents and to the execution and carrying out thereof.

14. And for greater certainty, but not so as to restrict the generality of the foregoing, it is hereby declared and agreed that if at the end of the said period of license of fifty years as created by the agreement of 11th April, 1900, and the period of license created by these presents shall have terminated under the operation of paragraph 11 of these presents, renewal of term or re-adjustment of rentals shall be made in accordance with the provisions of paragraph 27 of the 11th April, 1900.

15. In lieu of paragraph 31 of the agreement of 11th April, 1900, so much of its provisions as are as follows shall apply not only in respect of the works authorized by these, but in respect of the works authorized by the supplementary agreement of 15th August, 1901, which have been in part begun as hereinbefore recited, the company undertake to begin the works authorized by these presents, (or by any of the agreements previously entered into between the parties and in part recited), within two years from the date of this agreement, and to have proceeded so far with the said works on or before 1st April, 1906, that they will have completed within the Park water connections (that is to say: headrace, forebay, conduits or pipes, penstocks and tailrace), for the development of 40,000 horse power, and have actually ready for use, supply and transmission 20,000 developed electrical or pneumatic horse-power by said last mentioned day, and if not then completed the Lieutenant-Governor-in-Council may declare this agreement, the liberties, licenses, powers and authorities so granted and every one of them to be forfeited and void, and thenceforth after such declaration the same shall cease and determine and be utterly void and of no effect whatever.

16. And not to restrict the generality of the foregoing it is hereby declared that the following paragraphs of the agreement of 11th April, 1900, shall apply and be taken to be inserted herein: 8, 12, except the words "in its first development" in fifth line of said paragraph, 19, 20, 23, 28, 29, 30, 32, 33, 34, 35, 36, 37, also paragraphs 1, 2, 6, 7 and 8 of the supplementary agreement of 15th August, 1901.

17. And that the following paragraphs of the agreement of 11th April, 1900, be deemed to be inapplicable, namely, 10, 13, 15, 17, 18, 22, 24, also paragraphs 3, 4 and 5 of the supplementary agreement of 15th August, 1901.

18. It is further agreed that if from any cause the supply of water at the point of intake as by these presents defined be diminished the Company shall have no claim or right of action against the Commissioners, but may deepen such point of intake to such extent as to restore the supply of water to the volume or quantity necessary for the purposes of the company.

Nor give to the company any right of action against other licensees or grantees of the Commisisoners in respect of any diminution not substantially interfering with the supply necessary for the company, nor so long as such necessary supply can be obtained by means of deepening at said point of intake.

19. And the said parties hereto mutually and respectively covenant, promise and agree with each other to carry into effect, observe, perform and fulfill all the provisions and stipulations in these presents contained and to be carried into effect, observed performed and fulfilled by the said parties respectively.

20. This agreement shall have no force or effect until approved by the Lieutenant Governor-in-Council.

In Witness Whereof the corporate seal of the Commissioners has been hereunto affixed by their Chairman, who has also signed these presents in certification of due execution hereof by the Commissioners, and the corporate seal of the company has been hereunto affixed by the President, who has also signed these presents in certification of due execution hereof by the company, and on the day and year aforesaid.

(Signed) THE ONTARIO POWER COMPANY OF NIAGARA FALLS.

By J. J. ALBRIGHT, President.

ROBERT. C. BOARD, Secretary. (Seal)

Witness : JAMES WILSON.

(Signed) THE COMMISSIONERS OF QUEEN VICTORIA NIAGARA FALLS PARK.

By J. W. LANGMUIR, Chairman. (Seal)

AGREEMENT 29th DAY OF JANUARY, 1903, BETWEEN THE COMMISSIONERS AND MESSRS. MACKENZIE, PELLATT, AND NICHOLLS.

This Agreement made this 29 day of January, A.D. 1903.

Between The Commissioners of the Queen Victoria Niagara Falls Park, acting herein on their own behalf and with the approval of the Government of the Province of Ontario, hereinafter called "The Commissioners," of the first part, and William Mackenzie, of the City of Toronto, Capitalist, Henry Mill Pellatt, of the same place, Capitalist, and Frederic Nicholls, of the same place, Capitalist, hereinafter called "The Syndicate," of the second part.

Whereas for convenience and to prevent ambiguity it is agreed and understood by and between the said parties hereto and is hereby declared as follows, that is to say:

(a) The expression "The Park" whenever it occurs herein shall be understood to mean the Park proper, namely The Queen Victoria Niagara Falls Park south of its original boundary in front of the property formerly known as the Clifton House and running easterly to the Niagara River.

(b) The expression "The Commissioners" whenever it occurs herein shall be understood to mean not only the Commissioners of the Queen Victoria Niagara Falls Park,—as representing the Government of the Province of Ontario in the premises—named as parties hereto of the first part, but also their successors and assigns and those who for the time being may be Commissioners of the Queen Victoria Niagara Falls Park or other representatives of the Government in Ontario.

(c) The expression "The Syndicate" whenever it occurs herein shall be understood to mean not only the individuals above named as parties hereto of the second part, but also their and each of their heirs, executors, administrators and assigns.

And whereas the Syndicate have applied to the Commissioners for the right to take water from the Niagara River at a certain point or points in the Park in order that the Syndicate may thereby generate and develop electricity and pneumatic power for transmission beyond the Park.

And Whereas by the Act of the Legislature, 62 Victoria, Chapter 11, it is enacted as follows:—

"The said Commissioners with the approval of the Lieutenant Governor-in-Council may enter into an agreement or agreements with any person or persons, company or companies to take water from the Niagara River or from the Niagara or Welland Rivers at certain points within or without the said Park for the purpose of enabling such person or persons, company or companies to generate within or without the Park electricity, or pneumatic, hydraulic or other power conducting or discharging said water through and across the said Park or otherwise in such manner, for such rentals and upon such terms and conditions as may be embodied in the agreement or agreements as may appear to the Lieutenant Governor-in-Council to be in the public interest."

And Whereas the Syndicate desire to secure the right to construct their works in the Park and the Commissioners have agreed to permit such construction upon the terms and conditions hereinafter expressed and contained or intended so to be and in pursuance of the Statutory powers in the preceding paragraph set forth.

Now Therefore This Agreement Witnesseth as follows that is to say :

1. For the purpose of generating electricity and pneumatic power or any other power to be transmitted and capable of being transmitted to places beyond the Park the Commissioners hereby grant to the Syndicate, subject to the consent and approval of the proper authority and save as hereinafter limited, a license irrevocable to take from the water of the Niagara River within the Park a sufficient quantity of water to develop 125,000 electrical or pneumatic or other horse-power for commercial use. Provided also that these presents are not to be construed as expressing or implying and covenants by the Commissioners for title or quiet possession.

2. For the purposes aforesaid the Commissioners further grant to the Syndicate the right to construct and build and do and perform and operate the works, as hereinafter described and located in pink lines upon the map or plan marked "N" hereto annexed and entitled "Plan Attached to Agreement Dated January 29th, 1903, made by the Commissioners of the Queen Victoria Niagara Falls Park with William Mackenzie, Henry Mill Pellatt and Frederic Nicholls for Power Privileges within the Park" and which plan is identified by the seals and signatures of the parties hereto.

3. The several works which the Syndicate are by these presents authorized to perform and do may be more particularly described as follows :

Reference being made throughout to the above-mentioned map or plan marked "N".

(a) From a point at or near A, to a point at or near B, to construct a gathering over fall masonry dam, the crest of the said dam to be level with the surface of the ordinary water level of the river at the point A.

(b) From a point at or near B, to or near the points C, D, E and F successively to construct a masonry dam and overflow weir the crest of which from B to D to be approximately two feet and from D to F approximately three feet lower than the general level of the water in the forebay.

(c) At or near the point C, to construct a substantial masonry pier to direct the passage of ice from the intake to the river below the works.

(d) From or near the point H, to or near the point G, and from or near H, to or near K, to construct masonry revetment walls.

(e) From or near the point A, to or near the point R, and from or near the point H, to or near the point C, and from or near the point D, to or near J, to construct permanent masonry sheer ice booms to prevent floating ice which may enter the intake from passing into the forebay.

(f) To construct a power house with gate house, rack, screen, penstocks, wheelpit, etc., etc., within the area marked P, K, L, M. The power

house to be of size and capacity appropriate for the machinery and appliances for the generation of 125,000 electrical horse-power.

(g) To deepen the bed of the river within the area enclosed for the intake and forebay and extending to such a distance eastwards and up stream from the point A, as may be found necessary to conduct to the intake sufficient water at lowest stages of the river for the generation of 125,000 electrical horse-power in the power house of the company and a sufficient quantity of water in addition thereto to keep the weirs from B to E full to the level of the crest of the gathering over-fall masonry dam AB.

(h) To construct a masonry lined tail-race tunnel of capacity sufficient for the discharge of the water required in the works. The tunnel to extend from the wheel pit to a point of discharge below the Horse Shoe Fall located between the points O and N on the plan.

(i) To erect a transformer house at some point east of the power house site of the dimensions necessary for the stepping up of the electric power given off by the electrical machinery in the power house to the voltage required on the transmission lines.

(j) To carry the electricity generated to points beyond the Park by means of overhead wires or cables or by means of underground conduits.

(k) To construct temporary coffer dams in the bed of the river where required in order to facilitate and permit of the construction of any of the permanent works referred to in sub-sections (a) to (g) inclusive.

4. The syndicate agree to observe and perform the stipulations contained in the agreement between the Commissioners and Sutherland Macklin so far as it relates to the supply of water from the Niagara River to the Mansion, grounds and premises known as "Clark Hill," and to the stipulations in the subsequent agreement relating to the water supply made between the Commissioners and James R. Smith, the present proprietor and his heirs and assigns.

5. The rights and privileges described in sub-sections (a) to (k) of paragraph 3 of this agreement are granted subject to the rights in the bed of the river heretofore granted to the Ontario Power Company of Niagara Falls for its power development, which said rights granted as aforesaid to the Ontario Power Company are indicated in purple lines on the map or plan marked "N" attached hereto and described as "Intake Works of the Ontario Power Company of Niagara Falls," and none of the works to be performed under this agreement either those intended to be of a temporary character, such as coffer dams or other methods of diverting the water of the river in order to facilitate construction, or those designed to be of a permanent nature, shall in any wise interfere with or incommode the Ontario Power Company in the proper and efficient construction or operation of its works as these are defined on the said map, and the syndicate shall make all such provision for the carrying off of the natural drainage water or waters which may require to be pumped by the Ontario Power Company from its excavations and works as shall place that company in as favorable a position for the execution of its works of construction as if this agreement had not been entered into.

6. The works hereinafter specified and embraced in the following subsections (a) to (f) inclusive, and authorized by the Commissioners to be done and executed by the syndicate by these presents and the manner in which the same may from time to time be proposed to be performed or varied shall before being commenced be submitted by the syndicate to the Commissioners, accompanied by suitable plans, profiles, specifications and elevations as the case may require, and the scenic and general features thereof shall be approved by the Commissioners in writing. This approval shall in no wise relieve the syndicate from responsibility for the stability and effectiveness of its works, but it is intended to secure as far as possible a degree of harmony in outline and treatment compatible with the location and with the works in a public park. The works to which such approval are required and shall not be proceeded with without such approval are the following :

(a) The location of the temporary coffer dam required to shut out the waters of the river from the space to be occupied by the works of the syndicate.

(b) The design and location of the overflow masonry dams and weirs, sheer ice booms, revetment walls and piers for impounding and regulating the flow of water to the power house.

(c) The design and location of the power house and wheelpit, including the works and structures for regulating the flow of water at the penstock inlets.

(d) The lines and levels for the filling of the grounds about the site of the power house and out into the river to the north thereof and the method of protecting the same from erosion.

(e) The tunnel for carrying away the waste water from the wheel pit, the means of access to the mouth of the tunnel below the Falls, the method to be used in disposing of the excavated rock and the supply of timber and material for the lining of the tunnel.

(f) The design and location of the transformer house and the method of conducting the electricity to points without the Park.

7. Where the high tension transmission lines are carried over the park surface to points beyond the limit of the Park, non-conducting guard wires or other means of protection shall be placed beneath the transmission lines in such manner that in case of accident to any of the wires carrying electricity all danger to persons or vehicles passing may be prevented.

8. The Commissioners will define on the ground the area of the Park surface, which may be occupied for the temporary storage of materials to be used in the construction of the works in the Park, and also for the erection of such buildings or appliances as the Commissioners may consider necessary for the uses of the syndicate or of its contractors during construction. The area to be so occupied will of necessity be limited and the period during which the Park territory may be used for this purpose shall not exceed four years from the date of agreement for the initial installation of machinery to generate 25,000 horse power, nor more than eighteen months for any subsequent partial development up to the completion of the full installation of 125,000 electrical horse power.

9. The Commissioners may require all good surface soil which may be found at any point where works are to be constructed to be removed and deposited in heaps at convenient points. This good surface shall be used as a top dressing for all areas which may be disturbed by the operations specified or for covering over any waste material taken from the excavations in the Park. Should the quantity of good soil so obtained be insufficient in the opinion of the Commissioners to afford a proper covering for such new or disturbed areas, the syndicate shall obtain from without the Park sufficient good soil for this purpose, but the quantity of good surface soil which the Commissioners may require to be brought into the Park and used as a covering or top-dressing shall not exceed 10,000 cubic yards.

10. For the purpose of construction and to remove or receive supplies of materials and machinery, the syndicate may build, subject to the approval of the Commissioners, tramways, roads and such other appliances and structures as may be necessary for the prosecution of the work, but these appliances are to incommode to the least possible extent the ordinary travel in the Park, and shall be removed as soon as the works for which they are required are completed.

11. The syndicate shall have the right to use as power in the construction of any of the foregoing works either steam, electricity, compressed air or water.

12. Any excess of waste or refuse material taken from the excavations of the forebay, power house, wheel pit and tunnel which the Commissioners do not desire to use as filling within the Park shall be taken away by the Syndicate and deposited outside the Park limits.

13. The syndicate undertake to complete all the filling up, grading, levelling, sodding or covering with good surface soil and other works affecting the surface of the Park and to have removed all tramways, buildings and other constructions, material or appliances used in carrying out their operations in the Park within one year from the time fixed for the completion of any fractional instalment under this agreement.

14. The license hereby granted is for the term of fifty years commencing with the first of February, 1903. The syndicate paying therefor a clear yearly rental at \$15,000, payable half-yearly on the first days of August and February in each year, and in addition thereto payment at the rate of the sum of one dollar per annum for each electrical horse power generated and used and sold or disposed of over ten thousand electrical horse power up to twenty thousand electrical horse power, and the further payment of the sum of 75 cents for each electrical horse power generated and used and sold or disposed of over twenty thousand electrical horse power up to thirty thousand electrical horse power and the further payment of the sum of fifty cents for each electrical horse power generated and used and sold or disposed of over thirty thousand electrical horse power; that is to say, by way of example, that on generation and use and sale or disposal of thirty thousand electrical horse power the gross rental shall be \$32,500 per annum, payable half-yearly, and so on in case of further development, as above provided, and that such rates shall apply to power supplied or used either in Canada or the United States. Such additional rentals as shall be pay-

able for such generation and sale, or other disposition as aforesaid, to the Commissioners shall be payable half-yearly at the rate above specified on the first days of August and February in each year for all the power sold in the said several half-yearly periods from the day of sale; and within ten days after the said first days of August and February in each year, on which such additional rentals shall be payable respectively the Treasurer, or if no Treasurer, the Head Officer of the Syndicate shall deliver to the Commissioners a verified statement of the electrical horse power generated and used and sold or disposed of during the preceding half year, and the books of the syndicate shall be open to inspection and examination by the Commissioners or their agent, for the purpose of verifying or testing the correctness of such statement; and if any question or dispute arises in respect to such return or if any statement delivered at any time by the syndicate to the Commissioners of the quantity or amount of the electrical horse power generated and used and sold or disposed of, or of the amount payable for such additional rentals, the High Court of Justice of Ontario shall have jurisdiction to hear and determine the same and to enforce the giving of the information required. The syndicate has paid contemporaneously with the signing of this agreement the sum of \$30,000, being the first two years' rental in advance, being up to 1st February, 1905.

Provided always that if any part of the said rent, whether payable under this paragraph or in respect of the renewal term or terms in the following paragraph, shall be in arrear for three months whether legally demanded or not, the Commissioners, or if not, then an existing corporation, the Government of the Province of Ontario, may re-enter on the premises or any part thereof in the name of the whole, and thereupon this agreement shall determine and the remainder of the term then current shall terminate as well as any renewal or renewals thereof which under this agreement may be claimed.

15. If at the end of the said period of fifty years the syndicate desire to renew for a further period of twenty years and shall give notice in writing to the Commissioners at least twelve months before the expiration of the fifty years' period, they shall be entitled to and shall receive a further lease of such rights for the period of twenty years more at the same rental as above provided, unless the Lieutenant-Governor-in-Council shall desire a readjustment of said rent as below provided, and similarly the syndicate shall be entitled at their option to two further renewals of twenty years each at same rental, subject to the same qualifications, the object and intention of this stipulation being to confer upon the syndicate the right to an original term of fifty years at the rentals hereinbefore specified, and to three further terms of periods of twenty years each at said rentals, making one hundred and ten years in all, and the syndicate shall then give up or at the expiration of the first term of fifty years, or any subsequent term of twenty years, if unrenewed in accordance with this agreement the works, premises, rights and privileges by this agreement created without any claim for compensation with liberty to the syndicate to remove their machinery.

In case the syndicate desire to terminate the lease, they may do so during the first period of fifty years upon three months' notice in writing to the Commissioners, or in case the Commissioners are not then an exist-

ing corporation, the Government of the Province of Ontario, payment of rent up to the time of the termination of such notice being made upon the giving of such notice. At the end of said period of fifty years the same rentals as are hereby reserved shall continue to be paid by the said syndicate unless the Lieutenant-Governor-in-Council shall desire a readjustment of said rent, in which case the rentals for a further period of twenty years shall be readjusted by agreement, and in the absence or failure of agreement by the parties hereto, then the rentals for such further term shall be ascertained by three arbitrators or a majority of them, one of whom shall be named and appointed by the Commissioners, another by the syndicate, and the third by the Chief Justice or senior presiding Judge of the Provincial Court of Ultimate Appellate Jurisdiction for Ontario. The proceedings of and before such arbitrators shall be subject to the provisions of the law relating to "References by consent out of Court," contained in the Revised Statutes of Ontario, 1897, chapter 62, respecting arbitrations and references; and either party to such arbitration may appeal in accordance with the provisions of the said Revised Statutes. The Lieutenant-Governor-in-Council may in the like manner for the two further periods of twenty years each require a readjustment of said rentals. In which case the same shall be determined as aforesaid and at the expiration of such two periods of twenty years each the term so limited by these presents shall determine and end in accordance with all provisions above contained whereby the syndicate shall then give up the works, premises, rights and privileges by this agreement granted or created without any claim for compensation, but with liberty to the syndicate to remove their machinery. And it is hereby further agreed that at any time not less than three years before the period at which such third renewal of twenty year shall terminate the Lieutenant-Governor-in-Council, and notice thereof to the syndicate given, may require the syndicate to continue its operations for a further period of twenty years, to commence from the termination of such third renewal, at the same rental as shall have been paid during the said third renewal period of twenty years or at a readjustment of said last-mentioned rentals for such further period of twenty years by agreement, and in the absence or failure of agreement by the parties hereto, then the rentals for such further term of twenty years shall be ascertained by arbitration in manner and form and according to the provisions of arbitration hereinbefore contained, and in the event of such option being so exercised the terms and provisions of these presents shall extend and bind the parties hereto until the said period of twenty years shall have elapsed and expired, but the exercise of such option requiring such further renewal by the Lieutenant-Governor-in-Council shall not change, alter or affect the above provisions in respect of the termination of the liberties, licenses, powers and authorities and so declared applicable at the termination of the said last mentioned or fourth renewal.

16. The Commissioners will not themselves engage in making use of the water to generate electric, pneumatic or other power except for the purposes of the Park, provided that in case the said Commissioners shall have granted or at any time may have granted to any other person or corporation licenses to use the waters of the said Niagara or Welland Rivers, and by reason of failure of such person or corporation to carry on the works so licensed the said Commissioners find it necessary to forfeit said license

and take over said works, this clause shall not prohibit said Commissioners from operating such works for the generation and transmission, sale or lease of electricity or power.

17. And the company shall indemnify the Commissioners from all claims or demands by any person or persons whomsoever, whether arising by reason of the exercise by the syndicate of the powers, rights or authorities or any of them conferred by this agreement, or by reason of anything done by the syndicate in the exercise thereof affecting any property, rights or privileges heretofore by the Commissioners granted to or conferred upon any person or persons whomsoever or enjoyed, used and exercised by any such person or persons under the Commissioners; it being the intention of this agreement that should the syndicate in the exercise of the aforesaid powers, rights and authorities so affect any such property, rights or privileges granted by or enjoyed under the Commissioners, the syndicate shall fully indemnify the Commissioners in respect thereof.

And in the event of any claims or demands aforesaid being preferred before or in any tribunal, whether in a court of law or by proceedings of arbitration against the Commissioners or for the Commissioners or in their name, the syndicate undertake and agree to intervene on behalf of the Commissioners and defend the same or take such action in the premises at the cost and charges of the syndicate; the Commissioners thereby conferring upon the syndicate all such rights and powers to act in their name and in their behalf in the premises or to confer such other and further rights and powers as may be required by the syndicate and necessary.

18. For the transmission of electricity or pneumatic or other power to points beyond the Park in Canada or the United States, the syndicate shall have the right to convey the same by overhead high tension wires or by cables or other appliances in conduits, beneath the surface of the Park at such depth and in such locations as the Commissioners may from time to time determine, including the right to cross the so-called Chain Reserve so far as the same is within the jurisdiction of the Commissioners at any point or points approved of by the Commissioners between Fort Erie and Niagara-on-the-Lake, but subject to any rights which the Commissioners may have created or licensed or which may be created, without prejudice, however, to the exercise by the syndicate of any of its rights and powers under these presents, or which may be acquired in respect of transmission of power as by this paragraph prescribed.

19. The syndicate undertake to begin the works hereby authorized within two years from the date of this agreement, and to have proceeded so far with the said works on or before first January, 1907, that they will have completed within the Park, water connections (that is to say, head race, forebay, penstocks and tail race) for the development of twenty-five thousand horse power and have actually ready for use, supply and transmission ten thousand developed electrical or pneumatic horse power by said last-mentioned day, and if not then completed the Lieutenant-Governor-in-Council may declare this agreement, the liberties licenses, powers and authorities so granted and every of them to be forfeited and void, and thenceforth after such declaration the same shall cease and determine and be utterly void and of no effect whatever.

20. So long as this agreement is in force the Commissioners undertake and agree that the amount of rentals which may be fixed and charged for the right to use the waters of the Niagara or Welland Rivers within the Park for the purpose of generating electricity by any other company or person shall not be at less rentals than is provided and reserved by these presents, and further, that any such company shall be subject to the like restrictions, as in paragraph 21 of this agreement. Provided, however, that notwithstanding anything in this paragraph contained the rentals so to be fixed and charged against any other company or person may be reduced below the rentals provided and reserved by these presents so far only as such reduction may fairly and reasonably be allowed in respect of the increased cost of the construction of the tail race or tunnel within the Park, by reason of its greater length or other ground of expense in its or their construction, whether required for supply or waste through the Park to the point of discharge into the Niagara River in excess of the distance between the power house of the Canadian Niagara Power Company and the point of discharge into the Niagara River, such reduction not to be of an amount sufficient to give any undue advantage as against the syndicate except by reason of such increased cost of tail-race or tunnel or both, as the case may be.

21. The syndicate whenever required shall from the electricity or pneumatic power generated under this agreement, supply the same in Canada to the extent of any quantity not less than one-half the quantity generated at prices not to exceed the prices charged to cities, towns and consumers in the United States at similar distances from the Falls of Niagara for equal amounts of power and for similar uses, and shall, whenever required by the Lieutenant-Governor-in-Council, make a return of prices charged for such electricity or power, verified under oath by any Chief Officer of the syndicate, and if any question in dispute arises involving the non-supply or prices of electricity or power for consumption in Canada, the High Court of Justice of Ontario shall have jurisdiction to hear and determine the same and enforce the facilities to be given or the prices to be charged.

22. All power developed within the limits of the Park under this agreement shall be in a form capable of transmission and use outside the Park, and shall not be used within the Park except such uses as may be convenient or necessary within the buildings of the syndicate for the purposes of its power development and except such cases as may be hereafter agreed upon for railway, pumping, elevator, or other purposes within the Park. The syndicate may agree with the Niagara Falls Park and River Railway Company for the supply of electricity, pneumatic or other power to work the said railway, and with the town of Niagara Falls, Ontario, and the town of Niagara Falls South, Ontario, for the supply of power for their pumping station or stations within the Park and may also supply electricity for any other persons within the Park.

23. If the syndicate should at any time or times after the completion of its plant and power house or the first day of January, 1907, whichever shall first happen, continuously neglect for the space of one year effectually to generate electricity or pneumatic power as hereby agreed by the syndi-

cate, unless hindered by unavoidable accident, the Lieutenant-Governor-in-Council may then and from thenceforth declare this agreement, the liberties, licenses, powers and authorities thereby granted and every of them to be forfeited and thenceforth the same shall cease and determine and be utterly void and of no effect whatever.

24. The rents hereby agreed to be paid are hereby declared to be the first and preferential charge upon the said works, and the syndicate shall not have the power to create any lien, charge or incumbrance upon the said works or any of them by bond, debenture, mortgage or otherwise, which would interfere with or prevent the Commissioners from procuring payment of the rent hereby reserved or any part thereof; and no simple contract creditor or other creditor of the syndicate shall have any claim against the said works or any part thereof in priority of the claim of the Commissioners for rent.

25. The said syndicate shall not amalgamate with any other corporation or company heretofore or hereafter incorporated by or under the laws of the Dominion of Canada or by or under authority of the Province of Ontario, or which shall be hereafter licensed by the said Commissioners to take and use the waters of the Niagara or Welland Rivers or both for the purpose of generation and transmission of electricity without the consent of the Lieutenant-Governor-in-Council to such amalgamation, nor shall they enter into an arrangement or agreement for that purpose with any such company which may directly or indirectly have that effect or which may or shall have the effect of keeping up the price or prices of said power nor shall they enter into an agreement with any such company for pooling the receipts of the said syndicate or of any part thereof with those of any other company nor which shall provide for or have the effect of establishing a common charge or schedule of charges for the use of said power or any part thereof.

26. It is further agreed that if from any cause the supply of water at the point of intake as by these presents defined be diminished the syndicate shall have no claim or right of action against the Commissioners, but may deepen such point of intake to such extent as to restore the supply of water to the volume or quantity necessary for the purposes of the syndicate and that the granting or licensing of rights to the syndicate by these presents shall not give the syndicate any right of action against the Commissioners, nor give to the syndicate any right of action against other licensees or grantees of the Commissioners in respect of any diminution not substantially interfering with the supply necessary for the syndicate, nor so long as such necessary supply can be obtained by means of deepening at said point of intake.

27. The syndicate agrees with the Commissioners that within two years from the date of this agreement they will sell, assign, convey and transfer to a company or corporation formed or to be formed under proper authority, having power to construct and operate the works hereinbefore described all the rights and franchises by this agreement given and conferred to and upon the said syndicate, including the benefit of any work that shall have been done and any moneys that shall have been expended in connection with the said works prior to the organization of the said com-

pany or corporation, subject to all the provisions and conditions in this agreement contained, and by the syndicate agreed to be observed and performed, and otherwise upon such terms and conditions as shall be agreed upon between the said corporation and the syndicate.

And upon the due organization and formation of the company or corporation now existing or to be formed as above provided, and when this agreement and the rights and franchises thereby conferred, including works done and money expended as aforesaid, shall have been duly transferred to such company or corporation and it shall have assumed the same, the syndicate shall thereby be relieved from personal responsibility to the Commissioners for the performance of this agreement.

Nothing in this agreement contained shall affect any pending suit or litigation, or any contract, covenant or agreement made between the syndicate and any other corporation or individual, at the time of or prior to the said transfer.

Provided always, that any claim or right of suit or action existing against the syndicate may be urged and prosecuted against the said company or corporation as fully and effectually as it might be urged and prosecuted against the syndicate primarily bound or obliged or indebted in the premises, and the said company or corporation may be substituted for the syndicate in any pending suit or action.

28. And the said parties hereto mutually and respectively covenant, promise and agree with each other to carry into effect, observe, perform and fulfill all the provisions and stipulations in these presents contained and to be carried into effect, observed, performed and fulfilled by the said parties respectively.

29. This agreement shall have no force or effect until approved by the Lieutenant-Governor-in-Council.

In Witness Whereof the Corporate Seal of the Commissioners hath been hereto affixed by their Chairman, who has also signed these presents in certification of due execution hereof by the Commissioners, and the members of the syndicate have also hereunto set their hands and seals on the day and year aforesaid.

Witness:

(Sgd.) JAMES WILSON,
as to signature of J. W.
Langmuir.

Witness:

HUBERT H. MACRAE,
to the signatures of William Mac-
kenzie, by his Attorney A. W.
Mackenzie, Henry Mill Pellatt and
Frederic Nicholls.

THE COMMISSIONERS OF THE
QUEEN VICTORIA NIAGARA
FALLS PARK. (Seal.)

(Sgd.) J. W. LANGMUIR, Chairman.

(Sgd.) W. MACKENZIE,

Atty. A. W. MACKENZIE.
(Seal.)

(Sgd.) HENRY M. PELLATT.
(Seal.)

(Sgd.) FREDERIC NICHOLLS.
(Seal.)

QUEEN VICTORIA NIAGARA FALLS PARK.

Memo. Prepared by J. W. Langmuir, Chairman, re Development of Electrical Power at Niagara Falls.

Presented for the Consideration of the Government, Nov. 25th, 1902.

Messrs. William Mackenzie, Henry M. Pellatt and Frederic Nicholls, of Toronto, have made application to the Commissioners of the Queen Victoria Niagara Falls Park for a franchise to take water from the Niagara River within the Park limits, for the purpose of developing electrical power, and the applicants ask for sufficient water to generate 100,000 horse power. Two franchises have already been granted for taking water on a large scale within the Park, one to the Canadian Niagara Power Company, whose works designed for an ultimate capacity of about 100,000 electrical horse power, are in course of construction, and the other to the Ontario Power Company, which has made considerable progress in its preliminary works.

In addition to these a franchise has also been given to the Ontario Power Company for bringing the Welland River waters to the Park and developing power at the Falls on a large scale, but active operations upon this work are now in abeyance pending the construction of the Niagara River works of the same company. Rights have also been granted to the Niagara Falls Park & River Railway Company to use sufficient water to generate power for the operation of its system, and to the town of Niagara Falls for water for municipal purposes and in addition to generate 100 electrical horse power for lighting the town.

Before granting any additional franchises within the Park, it becomes necessary to consider every condition, both present and prospective, relating to the use of the waters of Niagara River for commercial purposes within the Park at Niagara Falls. The conditions to be inquired into and the problems to be dealt with in this connection may be summarized as follows:

(1st) An enquiry into the estimated volume of water that at present flows down the Niagara River before any waters are diverted for the purpose of generating power.

(2nd) The estimated volume of water now withdrawn on both sides of the river for power purposes and the approximate amount that will ultimately be diverted through the full operation of franchises and rights now under construction on both sides of the river.

(3rd) The effect that such withdrawals of water for the generation of electrical power and other purposes will ultimately have on the Falls of Niagara viewed from a physical and scenic standpoint.

(4th) A consideration of the international features of the subject that may arise between the State of New York and Canada through the diversion of a large volume of water from passing over the Falls.

(5th) Whether the granting of the application asked for at the location designated will to any appreciable extent interfere with or jeopardize the rights and privileges granted to the Canadian Niagara Power Company by a change or interruption in the flow of water or through other physical transformation.

(6th) The economic or financial results that the granting of a franchise to Messrs. Mackenzie, Pellatt and Nicholls, representing as they do the largest users of power in the City of Toronto, will have on the two companies which have already obtained rights to use the waters of Niagara within the Park for the purpose of generating electrical power with a view to marketing the same in Toronto and all points within transmissible distance, and in the furtherance of which these companies have to spend many millions of dollars in capital outlay as well as the payment of large annual rentals to the Government for the rights obtained.

(7th) Whether by the carrying out of all of these great works of commercial utility the original design of the founders of Queen Victoria Niagara Falls Park will be marred or the natural scenery unduly defaced.

Considering these matters in the order in which they are referred to, the Park Superintendent has made a very carefully prepared and interesting statement respecting the conditions and questions embodied in the two first paragraphs relating to the volume of water flowing above the Falls and the present and proposed diversion of a portion of the same on both sides of the river. His statement is as follows :

"The flow of the river has usually been assumed to be not less than 250,000 cubic feet per second, or under the difference of level found between the head of the rapids and the base of the Falls, the theoretical equivalent of over six millions of horse-power, the U.S. Engineers finding it in 1868 to be from 273,329 to 280,757 cubic feet, and Sir Casimir Gzowski from observations made at the site of the International bridge in 1870, —1,—2,—3 found a mean flow of 246,000 cubic feet. Now, however, from very careful surveys made by the U.S. Army Engineers extending over a number of years and recently published, the mean flow from the average levels of the water of Lake Erie for the last forty years is stated to be at Buffalo only 222,400 cubic feet per second.

"Doubtless the Erie and Welland canals now take more water than formerly, while the Chicago drainage canal alone abstracts about 6,000 feet per second from the supply, but it would appear that other causes must be found for the marked diminution of the volume. By making a slight addition for the streams entering the Niagara below Buffalo, the result may therefore be assumed at 223,000 cubic feet per second, which under the total head found in the Falls and in the rapids above the Falls would be equal to about 5,500,000 horse-power theoretical.

"From this total I estimate that to-day there is being taken from the upper river and returned below the Falls, on both sides of the river, about 9,000 cubic feet per second, or say four per cent. of the total.

"The two large companies taking water on the American side are now busily engaged in enlarging their works. Should they each extend to the limits engaged in enlarging their works. Should they each extend to the limits prescribed—in the one case by statute and in the other by the measure of its waterway—the result will be as follows :

"The Niagara Falls Power Company....	17,200 cubic feet
"The Niagara Falls Hydraulic Power & Manufacturing Company	7,700

"Or a total on the American side of.... 24,900 cubic feet

"Upon the Canadian side of the river, the Canadian Niagara Power Com-
 "pany's plans for their completed power house of 100,000 horse-power will
 "require..... 8,600 cubic feet
 "approximately, and the Ontario Power Company from
 "its Niagara River and Welland River franchises will
 "in all probability require—say..... 16,000
 "Add to this the requirements for the town supply and the
 "Electric Railway..... 400

"and we have a total on our side of 25,000 cubic feet

"Adding these quantities together makes a grand total of about 50,000
 "cubic feet, or twenty-two per cent. of the total flow. Of course this very
 "large amount of water will not be required immediately, nor will the maxi-
 "mum quantity be constantly abstracted from the river, but it is interesting
 "to note that the relative quantities proposed to be abstracted from each
 "side is nearly the same, and the output of electricity, viz., 300,000 horse-
 "power is also equal, or 600,000 horse-power altogether.

"But this may not be the sum total of the demands for the water.
 "Between the years 1886 and 1894 six additional companies obtained charters
 "from the New York State Legislature to take water from the Niagara
 "River, and none of these are limited as to the amount. So far none of them
 "have been carried out, although one was begun some years ago but failed
 "of completion for want of capital."

From the foregoing figures furnished by Mr. Wilson it will be gathered
 that the estimated flow of water above the Falls with Lake Erie at its mean
 or average level of 572.86 feet above tide level is equal to 223,000 cubic feet
 per second, and that the present and future withdrawals of water from the
 river in order to meet the requirements of the companies now exercising
 their franchises and charters granted both in the State of New York and
 Canada would require about 50,000 cubic feet. Leaving, when all the works
 are completed, 173,000 cubic feet or about seventy-eight per cent. of the
 present flow to pass over the Falls.

As to the effect such withdrawals of water will have on the Falls of
 Niagara as viewed from a scenic and physical standpoint it is shown from
 Mr. Wilson's statement and figures that when the franchises and charters
 which are being exercised up to this time for the development of power, both
 in the State of New York and in Canada, are in operation to the full extent
 of their respective capacities that the withdrawal of water from passing
 over the Falls will be about equal on both sides of the river. The changes
 and transformations that will take place and at what points more than at
 others the withdrawal of this large volume of water will have on the Falls
 it is most difficult to imagine, let alone to determine with any degree of
 accuracy.

Owing to the great volume of water now drawn into the extreme point
 of recession of the Horseshoe Falls on the Canadian side as well as the

great depth of the water at that point and also to the filling in that is going on of the shallow portions of the shore line on the Canadian side near the Falls, it is quite possible that the volume of water flowing over the present contour of the Horseshoe Falls except at Terrapin Point will not be injuriously affected to a visible extent.

Respecting the likelihood of International questions arising from the diversion of such large quantities of water for commercial purposes; having regard to the strong currents of the river and the concave shore line within the Park forcing the main volume of the stream to the Canadian shore, it is not likely that questions or differences of a serious character respecting such diversions, and the physical or scenic changes resulting thereupon will present themselves for settlement.

Coming now to the consideration of the application of Messrs. Mackenzie, Pellatt and Nicholls for a franchise to develop 100,000 horse-power at Point Tempest, I am of the opinion that the application can only be entertained on condition that the tailrace will be carried under the river to be discharged below the Falls. To allow another discharge tunnel in the Park, even if it can be safely placed under the tubes of the Ontario Power Company, would, I fear, lead to complications either with the Ontario Power Company or the Canadian Niagara Power Company. Moreover, until the plans of the Ontario Power Company are finally settled in all respects we cannot decide as to the location of intake, forebay and power house. The most serious question, however, in connection with this application is the unknown results that might arise in granting a franchise to take water from the river at any point between the Ontario Power Company's works at Dufferin Islands and the intake of the Canadian Niagara Power Company. Should the Government favor the granting of the application of Messrs. Mackenzie, Pellatt and Nicholls for a franchise, having regard to all the circumstances now recited, it would in my opinion be desirable to have the amount of water which they would be entitled to take clearly defined.

In view of all the intricate questions involved, I am of opinion that before taking action upon the application the services of one of the most eminent Hydraulic Engineers in America should be had to report fully upon the whole subject.

Respecting the economic or financial results that the granting of the franchise applied for will have on the two companies that have already received franchises, I am of the opinion that being simply a question of policy it should be settled by the Government. If these two companies develop to their full capacity there will be sufficient electrical power produced, in all likelihood, to supply the demand in Ontario for the next quarter of a century. If however, only one-half of the power to be generated on the Canadian side—say 150,000 horse power—is offered to consumers in Ontario as the agreements provide for the demand may overtake the supply in a much less period. Perhaps the most serious view of this phase of the question is that the present applicants represent the largest consumers of power in Toronto, who under other circumstances would likely become customers of one or other of the chartered companies. The whole question, however, is one of policy and expediency, and therefore can only be decided by the Ontario Government.

In respect to the probable scenic effects upon the Park of the carrying out of these several power projects, it may be noted that all that portion of the Park which lies north of the picnic ground and where the chief works of restoration and improvement have been carried on, will be unaffected by the construction of any of these projects, and between the picnic ground and Table Rock none of the works will be of a conspicuous character, the power house of the Ontario Power Company in the Gorge being below the line of vision of the Falls from any point within the Park proper. At Table Rock point the recession of the Falls has of late years bared a large area of the river bed, and advantage has been taken of the surplus material from the works in progress to reclaim all this area, and provide a new and most attractive point from which to view the Falls and gorge. South of Table Rock, after the completion of the works now in progress, all of the unfinished portions of the Park including the low lying reach behind Cedar Island, will be graded and planted, and the area of the Park considerably increased by reclaiming the low lying foreshore of the Niagara. At the south end of Cedar Island will stand the power house of the Canadian Niagara Power Company. This building will be of an imposing character and contain the largest electric machines so far constructed, and it is believed that it will be considered a most interesting feature of the Park. Beyond this point there will be no permanent works of construction above the Park surface, excepting at the Dufferin Islands where the intake of the Ontario Power Company will be placed. The plans of the company for this portion of the work have not yet been presented but the Commissioners have taken every precaution possible to have the works of the company so constructed as to very greatly improve and enhance this attractive feature of the Park. The granting of the additional franchise as asked for by Messrs. Mackenzie, Pellatt and Nicholls will of course involve additional changes, but the nature of these cannot be determined until their plans are submitted.

Respectfully submitted,

J. W. LANGMUIR, Chairman.

MEMORANDUM OF THE COMMISSIONERS OF THE QUEEN VICTORIA NIAGARA FALLS PARK.

Submitted to the Government on the occasion of the hearing given the Canadian Niagara Power Company, and The Ontario Power Company, in respect to the application of Messrs. Mackenzie, Pellatt & Nicholls at the Council Chambers, Dec. 19th, 1902.

Messrs. Mackenzie, Pellatt & Nicholls have made an application to the Commissioners of the Queen Victoria Niagara Falls Park for a power site within the Park together with the right to take sufficient water from the Niagara River to construct the necessary works for the generation of 100,000 electrical horse-power.

When the plans of the works were submitted by the applicants, the Commissioners carefully examined them, first from the standpoint of how the proposed works would affect the Park surface, and secondly whether they would interfere with the rights and privileges already granted to other companies to generate power within the Park. The first phase of the matter need not at present be referred to, and as to the second, certain amendments and modifications were suggested by the Commissioners and accepted by the applicants.

In order that the locations in the Park of the various power companies, including the site now asked for, may be clearly shown, the Commissioners have had prepared by the Park Superintendent a surface plan which is now submitted. This plan shows (1) The location of each site and the relationship or contiguity of the one to the other—(2) The intake from the river and forebay connected with each site—(3) The situation of the respective power houses, and—(4) The location of the discharge tunnels. The method proposed by the applicants for the generation of electrical power is the same as that of the Canadian Niagara Power Company, viz., by a wheelpit, power house and forebay; the discharge tunnel to be constructed under the bed of the river.

It will be seen from the map that the Ontario Power Company site is the most southerly location and therefore cannot be affected by the granting of the application now asked for. It therefore only remains to consider the rights and privileges that have been granted to the Canadian Niagara Power Company which is the most northerly location and the one nearest to the Falls. That location was so well and carefully selected by the Engineers of the Canadian Niagara Power Company, both in respect to depth and volume of water, natural currents and other important physical conditions that its intake of water cannot be interfered with unless the rights granted to the Ontario Power Company and those proposed to be granted to the presents applicants are in terms of their respective agreements exceeded beyond the limits provided by such agreements respectively. The plans of the Ontario Power Company and those of the present applicants as approved in accordance with the outline of their present proposals by the Commissioners are such that the natural flow into the intake of the Canadian Niagara Power Company will not be diverted or the volume of water injuriously reduced by the withdrawal of water through the operations of the other companies.

The Commissioners are strengthened in this view by the opinion of one of the most eminent hydraulic Engineers in America, Mr. J. James R. Croes, who at my request has answered the questions which I submitted to him as follows :

"Toronto, Canada, December 18th, 1902.

"J. W. Langmuir, Esq.,

"Chairman Queen Victoria Park Commissioners, Toronto.

"Dear Sir,—I have your letter of even date containing the following two "questions in regard to the proposed power development by the Toronto "and Niagara Falls Power Company.

"Question No. 1. Will the building of the proposed works of the "Toronto and Niagara Falls Power Company tend to divert the waters of the "Niagara River away from the intake of the Canadian Niagara Power Com- "pany ?

"Question No. 2. Will the subtraction of 11,200 cubic feet of water per "second from the Niagara River as proposed by the Toronto and Niagara "Falls Power Company affect the elevation of the water surface at the intake "of the Canadian Niagara Falls Power Company, and if so to what extent ?

"I have made the examinations referred to in your letter and beg to reply "as follows :

"In reply to Question No. 1, I am of the opinion that the building of the "works proposed by the Toronto and Niagara Falls Power Company will "not tend to divert the waters of the Niagara River away from the intake "of the Canadian Niagara Power Company.

"In reply to Question No. 2, I am of the opinion that the subtraction "of 11,200 cubic feet of water per second at the location and in the manner "proposed will not appreciably lower the elevation of the water at the intake "of the Canadian Niagara Power Company.

"Very respectfully, your obedient servant,

"(Signed) J. JAMES R. CROES, Consulting Engineer."

The Commissioners, therefore, subject to detailed plans and specifications of the various works in accordance with the outline of the present proposal being submitted for their approval and the execution of an agreement containing all necessary provisions and terms and conditions contained in the agreements with the other power companies are prepared to recommend the application of Messrs. Mackenzie, Pellatt and Nicholls to the favorable consideration of the Government.

ARGUMENTS AND BRIEF OF THE SOLICITORS AND THE OPINIONS
OF THE HYDRAULIC ENGINEERS RESPECTING THE APPLI-
CATION OF MESSRS. MACKENZIE, PELLATT, & NICHOLLS
FOR WATER POWER RIGHTS WITHIN THE PARK.

PETITION OF COUNSEL FOR MESSRS. MACKENZIE, PELLATT &
NICHOLLS.

To the Honorable the Commissioners of the Queen Victoria Niagara Falls
Park :

Your petitioners, William Mackenzie, Henry M. Pellatt and Frederic
Nicholls, as supplementary to the application already filed for a power site in
Niagara Falls Park, beg leave to submit for your consideration, in order to
exemplify and illustrate the same, drawings 1, 2, 3, and 4.

Your petitioners pray, subject to the plans of future permanent works
being approved by your honorable body.

1. The irrevocable right to take from the waters of the Niagara River
for power purposes for the generation of hydraulic or pneumatic power, a
sufficient quantity of water to develop 125,000 (one hundred and twenty-five
thousand) net electrical horse power for commercial use ; said water to be
applied to turbines located in suitable wheelpits to be operated under a head
of not less than 140 feet.

By the use of the term "net" above, we desire to express that the water
shall be sufficient for the actual generation of 125,000 electrical horse-
power after the necessary waters are supplied for excitation, and the opera-
tion of other auxiliary apparatus incident to the development of 125,000
electrical horse power.

2. For the purpose of securing the water necessary for the power men-
tioned in petition No. 1, your petitioners request the right to build upon
the river bed of the Niagara River a gathering overfall masonry dam, the
approximate general outline of which is shown on drawing No. 2 from G to
S and S to Q.

We request further the right to excavate the bed of the river above the
end of the overfall dam to such depth as may be necessary to secure a mini-
mum depth of ten feet below the bed of the river at the end of the overfall
dam and not less than six feet at any point leading thereto and the width and
alignment of such excavations to be determined by the Engineer of the
applicants. Providing always that the permanent works to be constructed
shall always be contained within the line A.B. shown on the plan.

The maximum height of this overfall dam to be not less than elevation
533 above the sea level, and that your petitioners may have the right to vary
the elevation of the parts G R, R V, V S, and S P, and the lengths of the
same, as further surveys may render necessary.

3. We ask for the right to construct from U to V and T to S and at any other points our Engineer may determine as necessary, and all within the boundary line mentioned in paragraph 2, masonry sheer ice booms, the length of the said ice booms and their dimensions and construction to be determined upon by the Engineer of your petitioners after the completion of further surveys.

4. Also for the right to build masonry retaining walls from G to W and a fender wall from T to E and from T to Z as shown on the plans the elevation of which fender wall will approximately agree to elevation 540; all other dimensions to be determined by the Engineer of the applicants upon the completion of further surveys.

5. For the right to perform such excavation above the overfall dam G S and S Q and within the same as will permit of the delivery of the necessary amount of water to the turbines, at such velocity of approach as the Engineer of the applicants may deem proper, after the completion of further surveys. It being the declared purpose of the gathering works shown on plan No. 2, both as to masonry and excavations above Q L, to divert a sufficient amount of water for the supply of the power asked for in paragraph No. 1, as well as a sufficient quantity of water to keep the spillways P S, S V, V R, and R G always full to elevation 533.

6. For the right to fill in all of that shaded portion between the letters T Z Y X J W M and F to the elevation approximately 540 and as the Commissioners may direct.

7. For the right to sink a wheelpit at some location inside of the space marked "Outside limits power house and gates" in plan No. 2, and that such wheelpit shall be of a size to be hereafter determined by the Engineers of your petitioners, and sufficient in all dimensions in his judgment for the development of 125,000 electrical horse power, specified in paragraph No. 1.

8. For the right to connect the bottom of the wheelpit mentioned in petition No. 7, with the Niagara River below the Horseshoe Falls, by the construction of a tailrace tunnel; the point of discharge of such tailrace tunnel to be at a point below the crest of the Horseshoe Falls and between the letters O and N on drawing No. 4.

For the further right in the construction of this tailrace tunnel to prosecute its construction from the exit under the Falls by the building of a construction tunnel under the brow of the Falls, which shall connect the end of the tailrace tunnel with a point of discharge for debris, to be hereafter determined, at some location between the letters O and approximately N on the map.

9. Referring to drawing No. 2, your petitioners ask for the right of use of such portions of the property inside the boundaries shown by the letters S T Z Y X J W back to S and of the lands in the river bed bounded by the letters Q S T and Z as may be required by the Engineer of the applicants for permanent works and subject to the approval of your honorable body.

10. For the right within the limits of Drawing No. 2, marked "Outside Limit Power House and Gates," to construct a suitable power house and

suitable gate house, which shall in the opinion of your Engineer be sufficient and proper for the housing and operation of the apparatus necessary for the generation of 125,000 electrical horse power.

11. The right to construct upon the river bed of the Niagara River a temporary construction coffer dam for the uncovering of the river bed, at least within the limits described in petition No. 2, the design of such construction coffer dam, and its actual location to be determined by our Engineer upon the completion of further surveys.

12. For the right to erect upon the property marked T Z Y X F back to T a transformer house of such dimensions as may be determined by the Engineer of the applicants and a suitable high tension transmission tower both to be of such dimensions as may be determined by the engineer of the applicants and subject to the approval of the Commissioners.

And also the right to carry high tension wires from the top of such transmission tower in a single span across the property of the Park Commission to some point outside the Park to be hereafter determined.

13. For the right in the construction of the foregoing works to construct such surface or overhead construction tracks and works as may be necessary for the delivery of any surplus excavated material that may be encountered, to the Niagara River below the Horse Shoe Falls, also that the right be granted permitting of the temporary construction and use of such cable-ways, derricks, engines and other apparatus as may be found necessary and expedient, for the rapid construction of the proposed works.

14. Also for the right to use the highways of the Park for the delivery of materials to and from the said construction works above referred to.

15. We further ask for the right to occupy the necessary lands in the Park and situated in the immediate vicinity of the above works for construction purposes, the buildings and constructions necessary to be erected on said property and the machinery necessary to be installed thereon, all to be removed immediately upon the completion of the works and the property to be restored, at the expense of the petitioners, to its original condition and under regulations to be made by your honorable body.

16. We also ask for the right in the construction of the foregoing works to use as power, either steam, electricity or compressed air, or water or any one or more of the above.

And your petitions will ever pray.

Dated December 17th, 1902.

(Signed) H. H. MACRAE, for the Applicants.

To the Honorable the Premier of Ontario, and the Members of the Cabinet :

MEMORANDUM OF ARGUMENT.

Submitted by Counsel for the Applicants for the Proposed Site at Niagara Falls.

It is not disputed that the Commissioners have the absolute right in their discretion to grant a license to the applicants, this authority is by Statute of the Province of Ontario, 63 Vic., Chap. 11, Sec. 36.

The position has been advanced that the Government is in a fiduciary relationship towards, and are in fact trustees for, the Canadian Niagara Power Company; this is erroneous, as will appear from what follows:

The Canadian Niagara Power Company had the exclusive right to take water within the limits of the park; they surrendered and abandoned that right for valuable consideration, and the Legislature cancelled it, and granted the Commissioners power to license other persons.

The Canadian Niagara Power Company are constructing their works under their license from the Commissioners with the knowledge that the Commissioners reserved to themselves the right to grant licenses to other persons.

Not only are they doing this, but they entered into an agreement which expressly contemplates by its terms the subsequent licensing by the Commissioners of other persons.

For proof of this see paragraph 5 of the Canadian Niagara Power Company agreement, 15th July, 1899, which provides: "That in case the said Commissioners shall have granted to any other person or corporation license to use the waters of the said Niagara River," etc., etc.

Also see paragraph 7 of the same agreement, which provides: "That the amount of rentals which may be fixed and charged for the right to use the waters of the Niagara or Welland River for the purpose of generating electricity by any other company or person shall not," etc.

And paragraph 11 provides with reference to "any right of action against other licensees or grantees of the Commissioners in respect of any diminution," etc., etc.

Special attention is called to the full reading of the above paragraph.

The Canadian Niagara Power Company therefore hold their license and are constructing their works, subject to the acknowledged right of the Commissioners to license other persons.

The legal position between the Commissioners and the Government on the one side, and the Canadian Niagara Power Company on the other side, is defined by the agreements which have been made between them: The Commissioners and the Government grant the license to take the waters pursuant to the plans, and the company agree to pay the rentals—both subject to the expressed conditions of the contract. In the contract there is no covenant or clause which restricts the Commissioners or the Government in the free exercise of their power to license.

There is no fiduciary relationship and there is no obligation cast upon the Commissioners or the Government, other than that arising directly from the provisions of the contract.

The applicants have made out their case through Mr. Cooper and Mr. Croes to the satisfaction of the Commissioners that there will be no substantial interference with the works of the Canadian Niagara Power Company, and the Commissioners have recommended the granting of the petition.

With regard to the evidence of Mr. Croes, see copy of letter to the Premier hereto annexed.

The Government after receiving the recommendation of the Board of Commissioners, granted a hearing to the Canadian Niagara Power Company for the purpose of giving to that company the opportunity of showing that physical injury would result to their works by the licensing of the applicants' proposed operations.

If the Canadian Niagara Power Company can demonstrate that the taking of water in the manner proposed by the applicants will cause physical injury of a substantial kind to their licensed works, the Government would be justified in refusing the applicants' petition, but the burden of establishing this injury rests upon that company. If they fail in convincing the Government that this injury will reasonably and naturally result, the Government need not, and ought not, to deny to these persons the license which they are privileged to ask, and which the Commissioners have the undisputed right to grant.

To suggest that the proposed works may injure the works of the Canadian Niagara Power Company is not sufficient, neither is the burden of proof cast upon the company met by the opinion of one or more engineers that such injury will result; more is required, the Canadian Niagara Power Company must show by reasons sufficient to satisfy the Government, founded on hydraulic facts and formulas, that this injury will flow from the projected works.

The Hon. the Premier remarked to Mr. Herschel on the argument before him, that he gave no reasons for his opinion that the level would be reduced four feet, it is these reasons which the Premier then sought, which must now be forthcoming, and which must be established before the Government can properly be asked to withhold the license petitioned for.

The opinion is again to be found in the written submission of Mr. Herschel, but he fails to give any reasons why the current should be diverted by a wall which in its hydraulic nature is not a diverting but a receiving wall.

The reasons why there will be no substantial interference with the level by the proposed works are to be found in the briefs of Mr. Croes and Mr. Cooper already submitted.

The responsibility of decision rests upon the Government, and it is submitted that their duty and obligation if they should consider it in the public interests to do so, is to grant the petition of the applicants unless constrained to believe upon the evidence before them, that a substantial injury

would be done to the Canadian Niagara Power Company by the proposed works.

The suggestion of an alternative site to avoid the dam is not a fair one, for neither at the point proposed by the applicants nor at any other available point above the intake of the Canadian Niagara Power Company is there sufficient depth of water to produce the necessary supply without a gathering dam, which is not included in the alternative scheme proposed by that company, and when this statement is fully understood, it includes the proposition, which is true in actual fact, that unless this site and proposed works are available, the Commissioners have now exhausted their power to license, and the existing companies have secured licenses which will forever prevent the operations of any other sufficient power development upon the Canadian side of the Niagara River.

SECTION II.

No argument for the Canadian Niagara Power Company can be founded upon paragraph 11.

It was inserted in the wisdom of the Government for its protection against any possible liability in respect of the proposed works of other licensees up the river, so that if the supply of water were diminished, still the Canadian Niagara Power Company should have no claim either against the Government or against such other licensees. But if any substantial interference were caused by subsequent licensees, which could not be remedied by deepening at the point of intake, then any claim on the part of the Canadian Niagara Power Company is not interfered with.

The section does not in any way restrict the right of the Government to grant, or of any applicant to receive a license, but it says that if the interference should turn out to be substantial, and without remedy by deepening, then if the Canadian Niagara Power Company has a claim for damages they may enforce it.

This section is relied upon by the applicants to prove :

1. That subsequent licensees were then contemplated by the Canadian Niagara Power Company.

2. That the Canadian Niagara Power Company were then content to make no claim against subsequent licensees for any diminution in the supply of water which would not cause a substantial interference or which could be remedied by deepening at the point of intake.

3. A lowering of the level of the water was clearly intended to be covered, because the words are "if from any cause the supply of water, etc., be diminished"; and lowering the level is a cause which would diminish the supply the reduction in the supply absolutely calls for a reduction in the level, and this can be taken care of by deepening. And

4. If the applicants admit a slight difference in level which can be remedied by deepening, then this difference is not such a one as will affect the granting of the license, for the section imposes the obligation upon the company to deepen for its own protection.

The above grounds are submitted by counsel for the applicants.

(Signed) C. ROBINSON.

(Signed) H. H. MACRAE.

The Hon. the Premier of Ontario :

Re the Application of William Mackenzie, H. M. Pellatt and Frederic

Nicholls to the Board of Commissioners of Niagara Falls Park.

Sir : I desire to call the attention of the Hon. the Premier and the Members of the Cabinet to the following facts in connection with the report of J. James P. Croes, submitted herewith.

The petition of the applicants having been filed, Mr. J. W. Langmuir Chairman of the Board, appointed Wednesday, the 10th December, for the hearing of the same, and on that date Mr. Mackenzie, Colonel Pellatt, Mr. Nicholls and myself attended before the Commissioners—Mr. Langmuir in the chair, Mr. Jaffray and Mr. James Wilson.

Mr. Hugh L. Cooper, hydraulic engineer for the petitioners, submitted his plans and explained the details of the proposed works, and gave it as his opinion in answer to Mr. Langmuir, that the taking of the water would not materially reduce the level of the water at the intake of the Canadian Niagara Power Company.

Mr. Langmuir then addressed Mr. Cooper, saying that it might be so, but could Mr. Cooper produce before him the first hydraulic engineer in the United States to say the same thing.

The case of the petitioners was complete at this time before the Commissioners, but in view of Mr. Langmuir's expressed desire for the highest independent testimony, Mr. Cooper obtained the opinion of Mr. Croes and offered it to Mr. Langmuir on the 18th inst.

The positions held by Mr. Croes are on record now with Mr. Wilson, and are sufficient evidence of his standing.

I have the honor to be, sir,

Your obedient servant,

H. H. MACRAE.

ARGUMENT OF HUGH L. COOPER, ENGINEER FOR THE APPLICANTS

In the matter of a certain application to the Lieutenant-Governor-in-Council of the Province of Ontario by William Mackenzie, Frederic Nicholls and Henry M. Pellatt, all of the City of Toronto, in the County of York in the said Province.

Mr. Hugh L. Cooper, hydraulic engineer for the applicants above mentioned, availing himself of the permission given to him by the honorable the members of the Cabinet of the Ontario Legislature, begs to submit the following answers to the objections taken by Mr. Herschel, C.E., on behalf of the Canadian Niagara Power Company to the works of the applicants on the Niagara River.

The Honorable the Premier having expressed his desire to have before him in writing the engineering reasons from the standpoint of the applicants why the objections taken by Mr. Herschel are not entitled to prevail, the writer understands that he is expressly desired to confine his statements to the arguments advanced by Mr. Herschel at the time of the hearing before the Members of the Government.

It should not be understood, however, that a simple reply to the arguments of Mr. Herschel in themselves constitute all of the reasons why the location proposed by the applicants should be adopted. Mr. Herschel's objections all had to do with the questions; First, of a reduction of level at their intake; second, the great cost that will be entailed upon them as a result of the change in this level; third, the action of the ice.

The opening statement of Mr. Herschel was to the effect that the construction of the temporary diverting coffer dam of the Ontario Power Company had produced a great change in the level of the water at the intake of the Niagara Power Company, and he announces that this change in level was so great as one foot.

In the consideration of the subject matter of this report the writer specially desires that the report of Mr. Croes, his associate, should be first read and understood, for the reason that the entire question of the effect upon the Canadian Niagara Power Company hinges upon the kind of works proposed by the applicants.

The report of Mr. Croes plainly shows that the works proposed both by the Ontario company and the applicants' company are neither of them in any sense in the nature of diverting works, for the specific reason that both over-falls in their final position are parallel to the direction of the approaching current, and because they are parallel they cannot divert, but can only receive, and it will aid your honorable body if in a consideration of this question you will call the structures placed in the river receiving dams, which they properly are.

The temporary construction dam which Mr. Herschel says changed their level one foot, is a diverting dam in the fullest sense of the definition offered you by Mr. Croes, and it is a fact that the diverting dam built by the Ontario company and now in place, diverts from its natural course a quantity of water more than twice as great as the total of the sum of waters

involved in the power developments of the Ontario company and the applicants' company.

Mr. Herschel thinks that the reduction in level is one foot.

The writer will bring upon request to the notice of the Commission absolute proof that Mr. Herschel is in error in this statement, and that this reduction, instead of one foot, as claimed by Mr. Herschel, has not been six inches.

Now, then, if the coffer dam above referred to is diverting twice as much water from its natural flowing tendency as is required by the Ontario Company and the applicants' company, and the present reduction in level is only six inches, then the greatest reduction in level that can be suggested as possible when both of the companies above referred to are in full operation will be a reduction of level of three inches at the intake of the Canadian Niagara Power Company.

A strict analysis of the conditions existing when you come to consider that the coffer dam above referred to is a diverting dam and entirely discharges and displaces the natural flow, would suggest to a reasoning mind that this three inches would be more like one and a half inches.

The investigations have been made and based upon actual facts pertaining to the particular river under consideration and results have been found which have been dictated by undisputable mathematic hydraulic formulae.

A calculation as to what the effect would be at the intake of the Canadian Niagara Power Company by the subtraction of 11,200 cubic feet of water per second, based upon standard hydraulic engineering formulae, shows that the maximum reduction that could be expected would be three and one-half inches, and in order to be entirely safe and that no possible close decisions could be offered to your honorable body, this three and one-half inches has been increased 100 per cent. and called seven inches.

The engineers of the War Department of the United States Government in their part 8 report of the year 1900, publish an exhaustive report upon the flow in the Niagara River covering a term of years at the International Bridge and below it.

The minimum flow of the Niagara River, as per the above report, is 10,000,000 cubic feet of water per minute, and the total quantity of water which the applicants propose to use when their entire development is complete is but 7 per cent. of this vast quantity, and this ratio of 7 per cent. should always be borne in mind when this report is being considered.

The report above referred to shows that a reduction of 7 per cent. of the quantity of water in the Niagara River results in a reduction of the level of the water surface of 2 per cent., where the percentage is applied to the average depth of the water at the point at which the measurements are taken.

At the Canadian Niagara Power Company's intake the average depth of water is 96 inches, and 2 per cent. of this quantity would mean a reduc-

tion in level of approximately two inches, allowing for the quantity of water that is discharged over the American Falls.

Taking into consideration all of the foregoing there can be no questioning this statement, that the maximum possible effect that can result to the Canadian Niagara Power Company's level by the subtraction of our quantity, namely, 11,200 cubic feet per second, cannot be a greater amount than seven inches, and it should be borne in mind that this seven inches is fully 100 per cent. more than the best calculations and previous measurements show that it will be.

The question then comes as to what the effect will be of a reduction of seven inches in the level of the water at the intake of the Canadian Niagara Power Company?

In consideration of the question "of water level" in front of the Canadian Niagara Power Company's intake, it must be borne in mind that the level of the water in front of this intake, whether any works are built above the intake or are not built, is an exceedingly variable quantity, owing to the directions of the winds at the head of the river, and that under present conditions, uninfluenced by any intakes whatsoever, the variations in the level of the water are frequently as great as 2 1-2 feet in 24 hours.

This feature of the present existing conditions is important and should not be lost sight of.

It should also be further borne in mind that in all hydraulic power constructions the machinery used is always designed to take care of large variations in level, and that turbines are provided with regulating gates within themselves, while under the influence of the machinery employed automatically take care of changes in level.

The maximum range of variation in level that can be spoken of here, or has been spoken of by Mr. Herschel or by ourselves, is 3 per cent. of the total head, whereas it is a fact that fully 80 per cent. of the water powers on the American continent have their turbines built to take care of variations in level of 35 per cent., instead of 4 per cent., and no important water power can be referred to in the United States or elsewhere, where the variations in level are less than 3 per cent.

The foregoing statement is exceedingly important in the consideration of this question, and the facts stated above should be thoroughly understood and remembered.

For the information of the Commission, it may be further stated that all properly designed turbines, and including the designs of Mr. Herschel of this particular plant, provide that the maximum power shall be given off by the turbines when the turbine gate is practically seven-eighths open, and the reason that the turbines are so designed is to take care of the variations in level and their consequent influence upon speed.

No water power plant can be instanced by Mr. Herschel, or by any other person, where the value and efficiency of the plant is affected or controlled or restricted by variations in the level of 3 or 10 per cent.

In practically all of the water power plants that are now in commission the element of a flooded season as compared to a minimum period, has always to be contended with, and in a majority of cases, the range between high water and low water is often 50 and 60 per cent. instead of the 3 per cent. in the case under consideration.

The reason that flood waters do not influence the plant we are speaking of, is because the vast areas of the lakes serve as an equalizing storage reservoir.

All of the foregoing facts point to one absolute condition existing at Niagara Falls, namely, that the taking of water out of the Niagara River upon the plans that obtain in the construction of the Canadian Niagara Power Company, follow conditions that cannot be paralleled elsewhere, and these conditions are conditions of exceptional value.

Finally in the above it should be noted that all of the comparisons have been made upon the basis that the actual conditions in level have been made, because of the work of the applicants has been 3 per cent., whereas this variation will be less than one-half of 1 per cent.

The contention has been made that the reduction in the level would cause necessarily a great change in the design of the works of the Canadian Niagara Power Company, and the waste of a "large heap of cut stone."

I have seen the plans of the intake of the Canadian Niagara Power Company, as well as the plans of their ice runner, and am familiar with the general construction involved in the works of the Canadian Niagara Power Company. From such examination I am able to say that the depth of water figured at the intake of the Canadian Niagara Power Company is taken at 15 feet, they having made excavations deepening the river at the intake from eight to fifteen feet, in order that the velocity of the water through their works may be reduced to a speed easier of manipulation.

Assuming that the petition of the applicants is granted, and assuming that the Ontario Power Company and the applicants' company were both taking their maximum power, and assuming finally that the Canadian Niagara Power Company under these conditions had not made any change in their present works, then and in that event, a reduction even of 7 inches (and we claim that it is only 3 1-2 inches) in the level would cause the following result:

The turbines of the Canadian Niagara Power Company are figured to work upon a nominal head of 136 feet, then if this head should be reduced 7 inches, in order to supply the same amount of power at 135.4 feet head that was originally called for at 136 feet head, we would require an increase in the amount of water delivered to the turbines, which percentage of increase would be represented by the ratio between 7 inches and 136 feet, which is less than one-half of 1 per cent.

In order that the turbines might still deliver the full amount of power as originally designed, and when operating under a reduced head of 7 inches in order that the quantity of water might be sufficient, it would be necessary to increase the velocity of the water of the intake by 3 1-2 per cent.

The demands of these above two necessities would add up less than 4 per cent., which increase in velocity is an amount that is imperceptible to the eye, is incapable of practicable measurement or discovery with the best measuring devices now known to the engineering profession. When we realize that practically all the power plants in the United States have to contend with differences in volume and in water levels where the ranges of these differences are usually from 30 per cent. up, this proposal, even if it involved a change of 4 per cent. (which we deny) prohibits criticism.

Supposing that the Canadian Niagara Power Company take the arbitrary position that they do not choose to indulge this four per cent.—what is the remedy?

Based upon an examination of the plans of this company the remedy that will cure the proposed increase in velocity would be by deepening the intake, a condition which has been contemplated by section 11, invoked by Mr. Nesbitt.

The contention has been made that in order to provide for a change in level great changes would have to be made in the design of the present works, and the waste of a large amount of cut stone in the above works. It was stated before the members of the Government that it would entail the expenditure of a very large sum of money to make the necessary changes in the present works to allow for any change whatever in the level, but upon examination and calculation I have found and estimated that the extra expenditure, if any, which would be occasioned to the Canadian Niagara Power Company would be as follows:

For the deepening of the intake the necessary amount that would require to be excavated would be 650 cubic yards of lime rock, in the bed on the intake, which at \$1.50 per yard would make \$975.00. Then with reference to the ice run, it is a fact that the elevation of the top of this ice over-fall, which is only 40 feet long, could be lowered to suit the new conditions, by the removal of six cubic yards of masonry, which at \$15.00 per yard would be \$90, making a total with the amount mentioned above, of \$1,065.00 to correct all the evils which are predicted by Mr. Herschel, and which evils we deny can possibly ever exist.

It must be borne in mind with reference to the masonry in this ice run that none of it is now laid, and that the alteration of the level in the intake does not involve any interference with any masonry that is now in place or is hereafter contemplated to be placed.

With reference to Mr. Herschel's second suggestion, that we should have our building across the tracks within the main body of the park, we reply that such a plan would involve the building of the same gathering dam upon the river bed as is provided for in the present plans, for the reason that in order to enable the applicants to successfully handle approaching ice, and to successfully provide for permissible velocities in the necessary volume of water for the operation of our plant, it will be necessary for us to construct a gathering over-fall dam, the elevation of the top of which is approximately elevation 533, and the length of which is determined by the two points, where this level line of elevation 533.00 intercepts the bed

of the river, and where it intercepts the present bank of the Queen Victoria Park. The above works would be necessary in any design, and by placing our power house behind this work we obviate the necessity of burdening the space in the body of the park with power house structures and locate them in the position where they would cause the least possible interference with the rights and privileges of every person interested.

It had been suggested that instead of building a gathering dam that the bed of the river should be excavated and deepened. In reply to this we state, what must be apparent to every person, that in order to successfully handle the ice that may be forced upon us, we must have slow velocity and a uniform level from the surface of which to divert the ice, and that these conditions cannot possibly be obtained except by the construction of the works proposed.

The building of works of the kind proposed was not necessary at the intake of the Canadian Niagara Power Company because there the surface of the water is practically level as compared with the surface of the water at our intake, and the water at their intake has the necessary depth, none of which conditions exist naturally at our site petitioned for.

With reference to the claim of Mr. Herschel that the works as proposed would operate to change the quantities of ice going by the intake of the Canadian Niagara Power Company, we reply as follows :

The direction of the current in the Niagara River carrying ice towards the Canadian Niagara Power Company's intake is formed, and its course is fully established by natural slopes in the river bed and by contour of the shore long before the waters of the Niagara River reach any of the works proposed by the applicants.

Therefore, inasmuch as the works of the applicants are wholly receptive, instead of diverting, the quantity of ice that will come to the plant of the applicants will be no different in any sense than would be the case were the plant never constructed. Therefore it must be admitted that the discharge of ice by the proposed plant of the applicants can be no greater under the proposed conditions.

A casual glance at the plan map would make all of the foregoing immediately apparent, and when we come to consider that the direction of the currents in the Niagara River above the intake of the Canadian Niagara Power Company is all toward the shore line just above the intake of the Canadian Niagara Power Company, the question of a change of the action of the ice in front of Mr. Herschel's intake by the works proposed by the applicants is entirely out of reason.

In conclusion the following facts cannot be denied by hydraulic mathematics or reason :

First : That the subtraction of 11,200 cubic feet of water per second at the site of the applicants will not appreciably reduce the level, or have any perceptible effect upon the installation of the Canadian Niagara Power Company, and will not entail upon them the necessity of changing in any particular whatever any part of their plans.

Second : For the reasons above given that there can be no legitimate reason advanced for the transfer of the power house site that they propose to a place further within the park and on the opposite side of the street railway tracks.

Third : Under the plans proposed, because of natural conditions that now exist, and which cannot be interfered with by any of the works proposed, there will be no change in the action of the ice at the intake of the Canadian Niagara Power Company.

Respectfully submitted,

(Signed) HUGH L. COOPER,
Consulting Engineer, 29 Boardway, New York.

New York, December 23rd, 1902.

OPINION OF J. JAMES R. CROES, CONSULTING ENGINEER.

To the Honorable the Premier of the Province of Ontario and Members of the Cabinet :

Gentlemen.—Having been requested by the Honorable Premier to submit my reasons for the opinions expressed in my letter to John W. Langmuir, Esq., Chairman of the Queen Victoria Park Commission, dated December 18th, 1902, I have the honor to say :

“First. The proposed works of the Toronto and Niagara Falls Water Power Company will not tend to divert the waters of the Niagara River away off the intake of the Canadian Niagara Power Company.”

Walls built in the channel of a swiftly flowing stream may be of three kinds ; diversion walls, or training walls, or obstructing walls.

A diversion wall may be defined as one built diagonally to the course of the stream at such an angle that the current striking it will be deflected from its course at an angle about equal to that at which it impinges against the wall. After passing the wall its course will not be parallel to the wall.

A training wall may be defined as one nearly parallel to the course of the current, and at such an angle that the water impinging against it will follow the course of the wall and not be deflected, but will continue on the same course as the wall after leaving it.

An obstructing wall is one built nearly transversely to the course of the current, so that the current is checked and broken up and divided each way from the point of impact and in a rapid current is heaped up against the wall at that point.

In a very swift current, the angular difference between an obstruction wall and a diversion wall at one extreme; and a diversion wall and a training wall at the other extreme, may be very slight.

In the case now under consideration, there is at this time a diversion wall at the east boundary of the Queen Victoria Park, extending downstream 800 feet in the form of a coffer dam built by the Ontario Power Company.

The current at that point sets in naturally towards the receding river bank. It is deflected by the dyke away from the shore and towards the apex of the Horse Shoe Fall, 3,200 feet down the stream. The extreme end of the dyke is bent to the east for 100 feet, making it practically a training wall in the direction of the deflected current.

The natural result is seen in the diversion of water from the elbow around Dufferin Island, where the bottom is laid bare and the lowering of the water level along the west shore of the river all the way down to the Canadian Niagara Power Company's intake opposite the apex of the Horse Shoe Fall.

This dyke is a temporary structure and when it is removed the current will resume its normal course, and the elevation all along the shore will be restored.

At the farther end of the dyke the current, the course of which has naturally been deflected somewhat to the left, as is evidenced by the conformation of the shore line, will encounter the training wall of the Ontario

Power Company, 700 feet long, built on the axis of the original current and terminated by the obstruction wall of the waste weir and gate house. The water flowing in the channel to the left of this wall will pass, some of it through the elbow around Dufferin Island, some will be carried off through the conduit of the Ontario Power Company and the rest will flow over the waste weirs and into the natural channel below Dufferin Island. That passing to the right of the training wall will follow its natural course, which the contour of the adjacent shore shows to be in a direction towards the intake of the Canadian Niagara Power Company.

It must be borne in mind right here that the direction of the current which shapes the shore of this, or any other, river is parallel to the general shore line. Bays and indentations cause fragmentary aberrations, but the general contour of the shore shows the true course of the current, which in this case is from the point designated as "Tempest Point" and down to the power house of the Electric Railway Company; a very regular curve of about 2,700 feet radius.

A shore distance from the shore opposite "Tempest Point" observation shows the course of the current to be directly towards the intake of the Canadian Niagara Power Company. To preserve this direction and accentuate it and lessen if possible the deflection which is apparent in the current 400 or 500 feet from the shore to the right, and in the direction of the Horse Shoe Fall, it is proposed by the Toronto Niagara Falls Power Company to build in the bed of the river about 400 feet from the shore a training wall some 650 feet long on the axis of the current, the upper end of the wall being entirely submerged and the top of the wall level, while the bed of the river falls several feet in the length of the wall. The last 200 feet of this wall will be built up to above the surface of the water. The water flowing to the left of this wall will partly be diverted into the company's whelpit and partly will flow over an obstructing wall or waste weir at the down-stream end of the training wall. The water flowing to the right will be given a direction which will lead it directly towards the intake of the Canadian Niagara Power Company, 1,200 feet distant.

Inasmuch as the walls proposed to be constructed are all west of a straight line drawn from the east line of the Victoria Park to the intake of the Canadian Niagara Power Company and are so aligned as to attract the current shoreward rather than towards the centre of the river, I am of the opinion that these works will not tend to divert the waters of the river away from the intake of the Canadian Niagara Power Company.

Second. "The elevation of the surface of the water at the intake of the Canadian Niagara Power Company will not be appreciably lowered by the subtraction from the river of 11,200 cubic feet per second at a point 1,200 feet distant."

By the term "not appreciably" is meant that the difference of elevation of the water at the intake under the conditions of subtraction or non-subtraction of the specified amount of water could not be detected by the ordinary observer, and could only be determined by a long and carefully conducted series of observations. The conditions existing may be thus stated: taking a straight line from the southerly shore of the river at the east limit of Queen Victoria Park to the Canadian Niagara Power Company's intake, a distance of about 3,700 feet there is to the northeast of that line a body of

water 1,200 feet wide flowing towards the intake, and its surface ordinarily falling in that distance about forty feet. On one side of this stream there would be a body of comparatively still water between it and the river bank, the fall and velocity being checked by training walls and obstruction walls. On the other side there would be a mass of swiftly flowing and turbulent water moving in the same general direction. Ripples and rapids and swirls, caused by irregularities in the river bottom, disturb the surface of these swiftly moving waters and cause surface cross-currents and fluctuations of level, but the general mass of the stream we are considering moves on towards the intake. On arriving at the intake the west side of this stream encounters the river bank through which the intake is constructed, while the east side of it reaches a precipitous gorge, the brink of which curves in across the stream and then down in its general direction for about 1,000 feet, meeting there the west shore, which has curved around to that point; down this gorge the whole mass of water is precipitated, forming the Horse Shoe Fall.

At about 1,400 feet up stream from the line drawn from the intake to the crest of the Horse Shoe, the Toronto & Niagara Falls Power Company propose to take from the west side of this stream a volume of water amounting to 11,200 cubic feet per second. At this point the water in the centre of the channel is several feet higher than it is along the shore. The abstraction of 11,200 cubic feet per second will tend to lower the water level close to the shore and the training wall erected on the west edge of the stream. The lowering of the water at this point will tend to produce a cross current in the stream setting towards the west shore, so as to equalize the level of the water. The direction of the line of shortest descent in the surface of the stream will be changed so that the surface current will flow in a more northwesterly direction than before to fill up the slight depression in the surface caused by the removal of the above named amount of water on the west side of the stream. This action will continue along down the stream until the level of the water surface near the shore is restored to its original condition. The distance within which this action may take place is fully a quarter of a mile, and at the point of intake of the Canadian Niagara Power Company, where the energy of this whole mass of water in the stream has been exerted in producing such a condition that the water which comes down on one side of a triangle is checked by another side of the triangle and precipitated over a cascade on the third side of the triangle. The cross section of the area of the stream on the up stream side of this triangle is adjusted by the action of the natural forces, so that all the water that comes down must be precipitated over the fall.

The exact shape of the upper surface of this cross section varies with the amount of water flowing in the stream, it fluctuates every day and every hour, and it is impossible that such a slight variation as would occur from the abstraction of a very small proportion of the volume of water flowing down this stream at a point more than a quarter of a mile away can make such a difference in the surface elevation of the water from crest of fall to bank as to be appreciable by the senses.

All of which is respectfully submitted.

(Signed) J. JAMES R. CROES.

New York, Dec. 22, 1902.

Consulting Engineer.

RE-JOINDER OF HUGH L. COOPER TO ARGUMENTS OF CANADIAN NIAGARA POWER COMPANY'S ENGINEERS.

To the Premier of Ontario and the Members of the Cabinet :

On behalf of the applicants William Mackenzie, Henry M. Pellatt and Frederic Nicholls, I beg to present the following answer to the memorandum of objections embodied in the letter of Clemens Herschel and Cecil B. Smith, under date of December 29th, all having to do with the grant of a power site to the applicants at or near Tempest Point.

The first assertion that the Niagara River above and below Tempest Point is a "series of rapids, ridges, channels, flat shoals, covered by a small depth of water," is admitted. An examination of the site on the ground absolutely demonstrates that the piling up effect at the intake of the Canadian Niagara Power Company and due to above admitted conditions, is caused by water almost wholly entirely outside of the line A. B. shown on our map.

The configuration of the banks of the Niagara River at Tempest Point is such that the water striking its bank, whether works are built there or not, do not add to the tendency of the river to pile up in front of the intake of the Canadian Niagara Power Company because this shore is not parallel to the shore below. The fact that there is this great natural tendency of the waters of the Niagara River to pile up six feet higher than a level line in front of the intake in question, is one of the strongest arguments why the subtraction of 7 per cent. of the waters will be inappreciable. If the water were level opposite the intake of the Canadian Niagara Power Company, the subtraction of 11,200 cubic feet per second at the proposed intake must affect the level to a greater extent than where, as the fact is in the present case, the torrent behind is crowding the water against the bank and in natural opposition to any reduction of level whatsoever. The works proposed by the applicants do not in any sense tend to divert water from the intake of the Canadian Niagara Power Company; on the contrary, the drawing out of 11,200 cubic feet per second at Tempest Point will create a tendency of the river to flow toward the river bank above the intake of the Canadian Niagara Power Company, and this tendency will extend beyond the limits of the line A B, and towards the centre of the stream, and be of value to the contestants in this case, as explained by Mr. Croes. In view of the above, and bearing always in mind that the proposed works do not divert water, the claim that a subtraction of 7 per cent. of the water of the river is going to result in the remaining 93 per cent seeking a new path toward the centre of the Horse Shoe Falls cannot prevail.

Action of Ontario Power Company Coffor Dam.

Messrs. Herschel and Smith overlook the fact that this coffer dam of the Ontario Power Company is a diverting dam in the fullest meaning of the words, and that it diverts from its natural tendency more than twice the amount of water than is involved in the ultimate necessities of both the Ontario Power Company and the applicants' company, and they overlook the fact that the diverting towards the centre of the river of 50,000 cubic feet of water per second is a vastly different condition than the subtraction of 25,000 cubic feet per second through works that are receiving and not diverting.

It follows therefore that the admission by Messrs. Herschel and Smith that if the present effect of the coffer dam of the Ontario Company is only a reduction of "2-3 of a foot" or 8 inches at their intake, this admission must also carry with it the further admission that when natural conditions are restored, and the Ontario company and the applicants' company should be both in full commission, that the maximum effect at the intake of the Canadian Niagara Power Company could not be more than one-half of eight inches, or four inches. In view of the foregoing it is not understood how Messrs. Herschel and Smith can sign so impossible a statement that "at the intake of the Canadian Niagara Power Company the water level will be permanently lowered by several feet."

General Denial.

We deny absolutely that any of the works proposed by the applicants either of a permanent or temporary construction kind, can ever have any appreciable effect upon the contestants' company, and our reasons therefor are set forth above, and in our original brief, and the statement that the Canadian Niagara Power Company will be by any of our works prevented or hindered from the completing of their plant for two years or any other period, is not correct.

We deny for reasons previously set forth that the Canadian Niagara Power Company is in any sense called upon by engineering necessities to protect itself from any conditions whatsoever, that may result by the granting of the petition of the applicants.

We deny that we can build works "by placing their power house back against the bluff." The reason we can't go "against the bluff" is because: First, we could not get by the pipes of the Ontario Power Company, neither under them, over them, nor behind them. Second, because this plan, even if the Ontario Power Company were out of the way would involve a needless expense of from \$450,000 to \$550,000, and the plant when so built would not be as useful as the one proposed by the applicants.

Arguments on Water Level.

The contention that "To lower the natural level of the Niagara River one inch would inflict serious damage," means that if it is a fact, then the works in question have been most seriously mis-designed.

The river level varies from day to day from 6 inches to 36 inches, influenced by the wind at the head of the river. This level may further vary in the future by subtraction of further waters for a deep water way canal, by the granting of further water power rights on the American side, by the taking out of more water at Chicago for drainage or navigation purposes—all or any of which probabilities will have in their consummation a much greater influence than one inch, and the sum of them might be 18 inches, and if this plant has been designed up to so close a point that one inch is a factor on one side and the wind and the possibilities above mentioned on the other, then we submit that the designers of this plant have been guilty of oversights for which the Commissioners of the Victoria Park cannot be held responsible.

It must be remembered that the probabilities above referred to have always existed, and before the filing of the application of the applicants. It is here contended that in no way is it a possibility for the Victoria Park Commissioners to guarantee any particular level of the water at the intake of the Canadian Niagara Power Company because of the volume of the influence outside of the jurisdiction of the Park Commissioners.

Wing Dam.

We deny the necessity of the proposed wing dam at the intake of the Canadian Niagara Power Company, and referred to in the legal submission section D, for reasons plainly evident in the first brief filed by the writer.

If, however, the contestants under the dominion of the same kind of advice that designs a plant on a margin of 1 inch where the total head involved is 1,632 inches, desire to build a wing dam at the lower end of their intake, such wing dam can be built without "hurt" to the affiliated company, the International River Railway Company, but the suggestion that the expense of this useless undertaking should be ever brought to the attention of the applicants should not prevail.

Ice.

We deny that the works we propose add to the ice quantities that are to be contended with by the contestants. First, because the area to be occupied by the proposed plant is so situated that even with the works not built the tendency of the river at that point is to pile up the ice on and toward the receiving bank at Tempest Point, and all such ice must pass close to the intake of the Canadian Niagara Power Company. The plan shows that, and an examination of the site shows the same thing; therefore, we do not increase the ice that would otherwise come, because the ice so thrown against Tempest Point would have to travel on toward the intake in question. Second, our first discharging weir or chute for ice, discharges away from the bank, not towards the bank, and the action of our works will be to relieve the contestants of ice instead of to oppress them.

Section 11.

Messrs. Herschel and Smith assert that in their respective experiences they have never known of changes in level not being objected to. This is no argument, because conditions parallel to those here existing, do not exist elsewhere even in an approximate degree. Section 11 says, if the supply of water is by any means reduced, the Canadian Niagara Power Company may deepen. This statement compels the admission that a reduction in level is contemplated and provided for, as otherwise you could not reduce the quantity without artificially choking up the intake with added works therein, a condition impossible in these premises.

We are shown exhibit "A" and as to this my brief already filed dealing with Mr. Herschel's second suggestion that the applicants should build across the tracks, shows conclusively why any instalment which does not include a gathering dam must be valueless, and no experienced hydraulic engineer could properly approve of the plan marked exhibit "A" and signed

by Mr. Smith. Furthermore, even if there were no hydraulic objections to this plan "A" it could not be made available because the properly approved plans of the Ontario Power Company show their steel conduits passing through the centre of forebay and power house of the works shown on exhibit "A."

No reason is offered by the Canadian Niagara Power Company for the original preparation and filing of this plan.

Conclusion.

We submit the foregoing brief reply feeling assured that the first briefs filed by Mr. Croes and the writer themselves constitute a general answer to the brief in question. We are gratified in the knowledge that the various engineering problems which are the points at issue in this case, will receive at your hands a full and impartial judgment, and we beg to assure you of our belief that the most critical examination of the facts in this case will result in the granting of the petition we have filed.

All of which is respectfully submitted.

(Signed) HUGH L. COOPER.

LETTER OF COUNSEL FOR CANADIAN NIAGARA POWER COMPANY.

Toronto, December 29th, 1902.

Hon. G. W. Ross, Parliament Buildings, Toronto:

Application of the Toronto and Niagara Power Company.

Dear Sir,—Herewith we beg to send you (a) memorandum of objections by the engineers and (b) memorandum presented upon behalf of the Canadian Niagara Power Company, as a supplement to that of its engineers.

On the 27th inst. we wrote to Mr. Macrae, solicitor of the applicants, the letter of which we enclose a copy, and to-day we received a letter from Mr. Macrae refusing to comply with our request.

As we have not been given an opportunity to read the report of the engineers of the applicants or the argument presented upon behalf of the applicants, we are obviously at a disadvantage in replying thereto, and we therefore beg to say that, if anything contained in the papers submitted upon behalf of the applicants is not replied to in our memorandum we shall be happy to deal with such point upon being advised by you that you desire a reply thereto.

Certainly, we must not be held to concur in any statement in the applicants' papers which we have been refused an opportunity to consider.

Respectfully yours,

(Signed) WALTER NESBITT

A. MONRO GRIER

Enclosed.

of counsel for the Canadian Niagara Power Company.
27th December, 1902.

(Copy.)

H. H. Macrae, Esq., Barrister, etc., Toronto, Ont.:

My Dear Mr. Macrae,—I have communicated with Mr. Nesbitt and he informs me that the Premier has intimated to him that the engineering argument upon behalf of the applicants should be put in, so that our engineers may be able to frame their rejoinder, and in like manner that such rejoinder should be put in so that it may be answered by your engineers.

In order that a course in keeping with the above may be followed, perhaps you will kindly let me have the memorandum or argument by Mr. Croes and Mr. Cooper in order that I may be in a position to send to you the rejoinder of Mr. Herschel and Mr. Smith. If you so desire I can ask the railway company to send you, at the same time, the argument of their engineers.

Wishing you the compliments of the season,

Yours faithfully,

"MONRO GRIER," Secretary.

Niagara Falls, Ont., Dec. 29th, 1902.

OPINION OF CANADIAN NIAGARA POWER COMPANY'S ENGINEERS.

The Canadian Niagara Power Company, Niagara Falls, Ont.:

Gentlemen,—We beg to present the following memorandum of objections to the plans of the Toronto and Niagara Power Company, as shown on a tracing presented by the Commissioners of the Queen Victoria Niagara Falls Park, December 19th, 1902, at a hearing by the Government of Ontario, held at the Parliament Buildings in Toronto on that day.

The Niagara River at Tempest Point, in the Park as well as both up stream and down stream therefrom, is a series of rapids, low water falls, ridges, channels, flat shoals covered by a small depth of water, and ledges of rock, making a stretch of river totally unlike an ordinary length of river in its formation as a channel for water, and subject to effects from disturbances placed in it totally unlike those that by the same causes would be produced in the ordinary river.

The configuration of the river is such that the water near the shore where the applicants' power house is proposed is some eight or nine feet lower than the water in the river 700 or 800 feet distant therefrom, and at right angles to the shore line. This inequality in the level of the water caused by the existence of rock ledges in the river creates a unique rush of water towards the Canadian shore at the intake of the Canadian Niagara Power Company, the result being that the water at that point is some 5 or 6 feet higher than it is in the centre of the river above the Horse Shoe Falls. Should a still-water basin be constructed in the river at the point shown on the plans filed, the level of which would be as high as or higher than that of the water in the centre of the river, the result would be that the main flow of the river would direct itself towards the centre of the Horse Shoe Falls, lowering the water in front of the Canadian Niagara Power Company's intake by several feet—exactly how much it is impossible to calculate—but in our opinion it would be at least 3 or 4 feet. Experience has amply shown these effects may be looked for.

At Tempest Point the water level is now, since the cribs were put in the river, 1,800 feet up stream from Tempest Point, about 2 feet lower than it was during the same stages of the river before the said cribs were put in by the Ontario Power Company.

At the intake of the Canadian Niagara Power Company, 1,400 feet down stream from Tempest Point, this same lowering of the water by the said cribs, which are over half a mile up stream from the intake, has amounted to about two-thirds of a foot.

Under the circumstances the proposed permanent structures of the applicants' in our opinion will cause the water level of the river at the intake of the Canadian Niagara Power Company to be permanently lowered by several feet, and any coffer dam to be built by the applicants will lower the river water levels still more at the intake of the Canadian Niagara Power Company and thus totally prevent the operation of the company's works while the coffer dam stands. That is, for a period of very likely two years.

The Canadian Niagara Power Company cannot now protect itself against effects from either the temporary or permanent works proposed. the works of the Canadian Niagara Power Company are built or contracted for to fit the natural water levels of the Niagara River; artificial interferences with these water levels could not have been foretold either in extent or in form. Their extent could not have been anticipated or prophesied or estimated. nor could the works to be built have been fitted to the water levels of futurity, and this cannot be done even to-day.

The most that could now be done would be for the Government or the applicants to build wing dams out into the river from a point down stream from the intake of the Canadian Niagara Power Company, and thus restore the river water level to its natural state.

The applicants can build works of the same class as those building by the Canadian Niagara Power Company without changing the natural levels in the Niagara River, by placing their power house back against the bluff opposite Tempest Point prallel to the river shore and about the same distance from the river shore as is the power house of the Canadian Niagara Power Company.

The sensitiveness of hydraulic works to a change of water levels is no new thing. The present case is wholly of this sort, and is not one of a slight diminution of head to act on the wheels or of a slight diminution of the total volume of water passing down the river. It is, to state it again, a case where owing to the configuration of the river bed even distant structures produce unusually great changes in water levels along the shore, and thus inflict great damage to works already planned and built.

To lower the natural level of the Niagara River one inch would inflict serious damage on the operation of the works of the Canadian Niagara Power Company, and the lowering of such level by a foot or more would so affect the operation of that company's works that the wing dam above referred to would become an absolute necessity.

During the terms of our respective experiences in water power construction we have never known a case where an attempt to change the natural water levels of a stream in any such manner as here has been suggested has been allowed against the protest of others having rights in the premises.

A harmful effect of the applicants' works will be the taking of ice from the river, which otherwise would pass on down stream and outside of the intake of the Canadian Niagara Power Company and the throwing of it again into the river along the shore, and in the line of the Canadian Niagara Power Company's intake, but if the applicants' works are built inland as suggested above the applicants can run their ice into their channel as is now done in other plants.

Section 11 of an agreement between the Commissioners and the Canadian Niagara Power Company has been alluded to. This section treats of remedies against a diminution of the supply of water at the point of intake and not with lowering of the water level of the river. The remedy open to the Canadian Niagara Power Company under this section is a "deepening at said point of intake," a course that would not remedy the

artificially produced water levels in the river in the slightest though possibly affect in helping to restore the volume of water. The remedy contemplated by the section, therefore, is of no avail against the injury which the works of the applicants as at present proposed would inflict.

Respectfully submitted.

(Signed) CLEMENS HERSCHEL,
Consulting Hydraulic Engineer.

(Signed) CECIL B. SMITH,
Resident Engineer.

RE APPLICATION OF THE TORONTO & NIAGARA POWER CO.

Memorandum presented upon behalf of the Canadian Niagara Power Co.

A.

1. This matter comes before the Government as an entirely open matter. The Commissioners always maintain that, as a body, they do not pass upon expert engineering questions. Now that the Commissioners have learned that the gentlemen, whose judgment they relied upon, represents the applicants—one of the parties to the present controversy—they will retire as of course from the position that the point at issue is concluded so far as they are concerned. It is not the practice of our tribunals to base a judgment upon the ex parte statements of one side in a contestation. The matter is therefore an open one.

2. The Canadian Niagara Power Company is not seeking to prevent the Toronto and Niagara Power Company from getting the right to develop power or, in other words, to prevent competition, but it is seeking to protect itself from physical damage.

B.

1. The Canadian Niagara Power Company obtained its charter in 1892. It has paid in rentals, up to date, the sum of \$215,000. It has obeyed consistently the Commissioners' directions as to its works, whether in respect of location or otherwise, and is in its present position of vulnerability with reference to physical hurt by reason of such obedience.

2. In law, the Commissioners are in a fiduciary position towards the Canadian Niagara Power Company, and in law and in equity that company looks to them and also to the Government to see that it is protected.

Apart from the provisions of section 11 of the agreement of 15th July, 1899 (which section will be dealt with below), the Commissioners are in duty bound to see that they do not impair the value of their grant to the Canadian Niagara Power Company. The like duty rests upon the Government.

3. Therefore if to grant the present request would hurt physically the development of the Canadian Niagara Power Company the request must be refused.

4. If it be said that it is impossible to demonstrate that the proposed development would or would not hurt physically the development of the Canadian Niagara Power Company, the duty of the Commissioners and the Government is clear. Reputable experts for the Canadian Niagara Power Company assert so strongly that hurt would follow that a reasonable doubt must be held to exist and any reasonable doubt must be resolved in favor of the Canadian Niagara Power Company.

This is not the case of a controversy between two parties as to the construction of rights already granted, but it is an application upon the part of one seeking for privileges which (upon the assumption of there being a doubt) may or may not do injury to another, who has received certain rights, for which he has duly paid. It is not a case where the question

can be tested physically, because if the view of the party who has paid for and has received the rights is correct, the granting of the privileges asked for by the one who has no rights, up to the present, would irremediably damage the party who has paid for and has already received rights in the premises.

5. The proposition contained in the next preceding paragraph would be sound, even if alternative methods were not open to the applicants, but in view of the fact that at least one alternative method of development is open to the applicants, the plea of the Canadian Niagara Power Company must be listened to by any tribunal, which desires to deal justly between the parties. The Canadian Niagara Power Company not only points to an alternative method of development, but hands to the Government and the Commissioners a plan (exhibit "A" to this memorandum), which has been in existence in the exact condition in which it is at present, ever since the month of July, 1902. If the Canadian Niagara Power Company were to start to develop to-day near the proposed site of the works of the applicants, the method of development to be followed would be that indicated in the attached plan, which was made without reference to any possible application by the Toronto and Niagara Power Company and at a time when it was confidently thought that the applicants, instead of developing power themselves, would take power from the Canadian Niagara Power Company. No better evidence of the good faith of the Canadian Niagara Power Company, in the suggestion of an alternative method, could, by any possibility, be obtained.

6. To sum up, it is abundantly clear, that the present application should not be granted, but that the Toronto and Niagara Power Company should be asked to develop along lines which would not hurt physically the development of the Canadian Niagara Power Company, which is already in an advanced stage, and upon which large sums have been spent and still larger sums contracted to be spent, in reliance upon the good faith of the Government of Ontario and the Commissioners of the Queen Victoria Niagara Falls Park.

C.

Reference has been had to section 11 of the agreement of 15th July, 1899, which reads as follows :

"11. It is further agreed that if from any cause the supply of water at the point of intake as by these presents defined be diminished, the company shall have no claim or right of action against the Commissioners, but may deepen such point of intake to such extent as to restore the supply of water to the volume or quantity necessary for the purpose of the company, and that the granting or licensing of rights to the company by these presents or the agreement of the seventh day of April, 1892, as hereby extended, shall not give the company any right of action against the Commissioners, nor give to the company any right of action against other licensees or grantees of the Commissioners in respect of any diminution not substantially interfering with the supply necessary for the company, nor so long as such necessary supply can be obtained by means of deepening at said points of intake."

1. As pointed out more fully below this section does not relate at all to such a hurt as is complained of by the Canadian Niagara Power Company, namely, a lowering of the water level, but assuming for the moment that it does relate to such a hurt the following consideration is pointed out:

If the section is not wide enough to protect the Canadian Niagara Power Company, in case its intake is in fact interfered with, then the Government and the Commissioners in the carrying out of the trust reposed in them in respect of the Canadian Niagara Power Company as a purchaser of rights from them, are bound to see that no rights are granted which are calculated to interfere with the supply necessary for the Canadian Niagara Power Company since (upon the hypothesis of this present paragraph) the Canadian Niagara Power Company would have no recourse, in the event of hurt being suffered. In other words, the more it is insisted upon that the Canadian Niagara Power Company is not given any remedy for damage inadvertently caused to it, the more emphatically does it become the duty of the Government and Commissioners to protect the Canadian Niagara Power Company in advance by refusing to grant privileges which might hurt its development.

2. The above section 11 does not relate to a lowering of the water level, which is the hurt complained of by the Engineer of the Canadian Niagara Power Company. The hurt contemplated by the section is merely a diminution in the volume or quantity of the supply. This is not objectionable if the water is not taken by obstructions placed in the river which substantially lower the water level. The language of the section when dealing with the hurt itself makes this point clear. It is made still clearer when we turn to the remedy suggested: "deepening at said point of intake". That remedy might be effectual to restore the volume of water but has nothing to do with the restoration of the water level. The water level changed to the detriment of the Canadian Niagara Power Company would remain so changed, and the harm done to the Canadian Niagara Power Company would remain unredressed.

Referring to that portion of the Engineers' memorandum which deals with the question of remedy it is obvious that if the applicants are permitted by the Government to erect the proposed works in spite of the protest of the Canadian Niagara Power Company the construction of a wing dam at a point down stream from the intake of the Canadian Niagara Power Company must form a portion of the works to be constructed by the applicants and that the Canadian Niagara Power Company must be indemnified by the applicants against any claim for damages suffered by the International Railway Company or others by reason of the construction of such wing dam.

(Signed) WALLACE NESBITT,

A. MORNO GRIER.

Of Counsel for Canadian Niagara Power Company.

29th December, 1902.

Niagara Falls, Ont., January 5th, 1903.

The Honorable Geo. W. Ross, Parliament Buildings, Toronto.

Dear Sir,—We have now the honor to present to you a memorandum containing the observations of our Engineers by way of reply to the briefs of the Engineers of the applicants.

In submitting this memorandum, permit us to point out that the briefs presented upon behalf of the applicants, so far from lessening our fears for the safety and well-being of our works have served to increase them.

We beg to emphasize the fact that, in the deplorable event of the request of the applicants being granted, there will arise the necessity to endeavor to protect our development, and we shall desire to lay before you the safeguards which in addition to those adverted to by our Engineers, would be necessary in such effort to protect our works.

It has been stated that the Government purpose invoking the aid of independent experts. If such a statement is correct, we wish to say that our Engineers are entirely at the service of the Government and their experts, to furnish plans or information or to aid in any other way which may be desired.

We have the honor to be,

Your obedient servants,

CANADIAN NIAGARA POWER COMPANY.

(Signed) W. H. BEATTY,

(Signed) W. B. RANKINE,

Vice-President.

REJOINDER OF ENGINEERS OF CANADIAN NIAGARA POWER COMPANY TO ARGUMENTS OF ENGINEERS FOR THE APPLICANTS.

Niagara Falls, Ont., January 3rd, 1903.

Canadian Niagara Power Company, Niagara Falls, Ontario :

Gentlemen,—Since sending to you our report of December 29th, 1902, containing our objections to the plans of The Toronto & Niagara Power Company, we have been allowed an opportunity to read the briefs of Messrs. J. James R. Croes and Hugh L. Cooper, Consulting Engineers of the applicants, and we beg to submit respectfully, for transmission to the Premier, the following observations by way of reply :

1. We call attention to the fact that the illustrations and arguments in the briefs of Messrs. Croes and Cooper are based upon theories in regard to the Niagara River which, however applicable to streams of ordinary character, do not apply to this river at the points under consideration. At these points, this river is not an ordinary stream-flow channel, one permitting the free interchange of water and a full and complete re-adjustment of water levels throughout its length and breadth. For this reason their illustrations and arguments should be disregarded.

(a) Personal observation and actual experiment show the error of the statements that the water now flows directly towards the intake of the Canadian Niagara Power Company and that it will be drawn in that direction by the proposed wing dam of the applicants. One of the statements of Mr. Croes in this regard is correct—"That the direction of the current which shapes the shore of this...river is parallel to the general shore line," and that the deflection which is apparent.....is in the direction of the Horseshoe Fall." During the construction of the Ontario Power Company's cofferdam, a section of crib, which broke away and floated downstream, was carried over the Horseshoe Fall near the centre, without approaching the intake of the Canadian Niagara Power Company. This result demonstrates the incorrectness of the statement in Mr. Croes' report that "observation shows the course of the current to be directly towards the intake of the Canadian Niagara Power Company," and justifies his other statement that the current is in the direction of the centre of the Horseshoe Fall.

(b) A calculation which must be disregarded is that of Mr. Cooper when he speaks of "what the effect would be at the intake of the Canadian Niagara Power Company by the subtraction of 11,200 cubic feet of water per second based upon standard hydraulic engineering formulae." It is evident that a "standard hydraulic" formula cannot be applied properly to a length of river so unlike a "standard hydraulic" river as the rapids and series of cataracts here under examination. For instance, assume a ridge of rock parallel to the shore and distant 250 feet from it and an average depth of water between it and the shore of five feet—a not inapt or unfair description of the existing conditions—and we have the subtraction of 11,200 cubic feet per second exhausting the whole flow of the river between the ridge and the shore.

(c) The computation following the statement that the Engineers of the War Department of the United States have reported the minimum discharge of the Niagara River to be in the vicinity of 167,000 cubic feet per second, leads to another erroneous conclusion; the rules formulated by the

United States' Engineers having been based upon observations made at the deep water portion of the river under the International Bridge near Buffalo, and not at points where the discharge of the river is in the form of turbulent rapids.

(d) Another erroneous conclusion is the one based upon the assumption that "at the Canadian Niagara Power Company's intake the average depth of water is 96 inches," because the river between Goat Island and the Canada shore is composed of a number of channels and shoals and rapids, and the average of their aggregate cross-section has no such bearing or weight as has been given to it in the briefs and, even if accurately guessed at, is of no use whatsoever in the present examination.

2. In the arguments of Messrs. Croes and Cooper, it is suggested that the effect of the proposed works will be to lessen rather than to increase whatever deflection of the current towards the centre of the river may exist at the present time. Obviously, the proposed construction, by means of the piling up of the water inside the intake, will create a marked deflection towards the centre of the river. The absolute disregard by Messrs. Croes and Cooper of any consideration of this piling up of the water destroys the validity of their conclusion on this point. A notable instance of this disregard is to be found in Mr. Croes' statement that the "abstraction of 11,200 cubic feet per second will tend to lower the water level close to the shore." This entirely ignores the fact that the wing dam to be constructed is designed to raise the level of the water some twelve feet at the downstream end, so that there will be no lowering by any such abstraction of water as is referred to.

3. Messrs. Croes and Cooper have omitted apparently any consideration of the injurious effect upon intakes of water downstream from the proposed works of their company by reason of the temporary cofferdams to be constructed by the applicants for the purpose of building their permanent works.

4. Messrs. Croes and Cooper assert that the intake of the Canadian Niagara Power Company is a good intake in itself and better than the intakes of other power developments elsewhere in respect of the limited range of head water levels. It is true that these works have been built with proper provision for the normal range of variation on this river, but not with a view to the allowance above the intake of structures in the river which produce still water pond effects and totally disturb and derange the natural conditions. The comparison should be with all regulated power plants where, by means of head gates, the water levels in the canal are so controlled that in the operation of the plant the head water level is not allowed to vary over one inch.

5. The evil resulting from the diversion of water by the proposed obstructions of the applicants is an evil which is calculated to increase rather than to diminish as time goes on. This calculation is based upon the fact that the breaking away of the Falls at or about their centre is tending constantly to deepen the channel thereabouts, the deepening of which increases the difficulty of bringing water back to the shore line when once it has been diverted into the centre channel.

We confirm, therefore, the views expressed in our report to you of 29th December, and advise you, in the interests of your investment and the operation of your plant, to resist to the utmost the granting of the right to construct the applicants' works as at present designed.

If, in spite of the very grave and serious objections which have been pointed out, the request of the applicants should be granted, we feel it our duty to impress upon you the absolute necessity of insisting upon the construction for your company of the wing dam indicated in our former report, for the purpose of lessening, so far as may be, the damage which is certain to be done to your water levels and to your whole plant and property by the construction of the projected works of the applicants.

Respectfully submitted,

(Signed) CLEMENS HERSCHEL,
Consulting Hydraulic Engineer,
M. Inst. C.E. M. Sm. Soc. C.E.

(Signed) CECIL B. SMITH,
Resident Engineer,
Ma E. M. Can. Soc. C.E.

ARGUMENTS AND OPINIONS SUBMITTED BY THE INTERNATIONAL
RAILWAY CO.

Toronto, January 5th, 1903.

Hon. G. W. Ross, Parliament Buildings, Toronto.

Dear Sir.—I have the honor to submit the report of Mr. John Kennedy and Mr. P. A. Peterson, of Montreal, who have been retained by the International Railway to give their opinion as to whether the proposed works of the Toronto & Niagara Power Company will lower the level of the river at the point where the railway company takes water.

In submitting this report I call attention to the following statement contained in the memorandum of the Engineers of the Canadian Niagara Power Company dated 29th December, 1902 :

"To lower the natural level of the Niagara River one inch would inflict serious damage on the operation of the works of the Canadian Niagara Power Company, and the lowering of such level by a foot or more would so affect the operation of that company's works that the wing dam above referred to would become an absolute necessity."

Any lowering of the water level at the intake of the Canadian Niagara Power Company will affect injuriously to an intensified degree the intake of the railway company as users of the water at a point downstream from the intake of the Canadian Niagara Power Company, and everyone can appreciate how serious a matter the lowering of the water level at the intake of the railway company to the extent of six inches would be, when it is borne in mind that the "head" of that company is only, say, one-third of that of the Canadian Niagara Power Company.

The International Railway Company adopts, *mutatis mutandis*, the observations and conclusions contained in the several memoranda presented up to this date upon behalf of the Canadian Niagara Power Company.

Should the Government override the objections which are raised and allow the application, this company desires to have then the opportunity to point out the protection which in its judgment would be absolutely necessary to mitigate, if possible, the harm done to it.

Yours faithfully,

(Signed) THOS. GIBBS BLACKSTOCK,
Of Counsel for The International Railway Co.

Montreal, Que., January 2nd, 1903.

To The International Railway Company, Niagara Falls, Ont.:

Messrs.—We are desired by you to give an opinion as to whether or not the works proposed to be built by the Toronto and Niagara Falls Power Company for taking water from the Canadian side of the Niagara River a short distance above the Niagara Falls, will lower the level of the river at the points where the International Railway Company now takes water from the river for developing power, and where the Canadian Niagara Power Company is now making a headrace to take water for developing power at its adjoining works under construction.

We understand from plans and information furnished us by your representatives :—

1. The Toronto and Niagara Power Company (hereinafter called the Toronto Company) proposes to draw water from the Niagara River at Tempest Point about 2,400 feet above the brink of the Falls, to the extent of about 11,200 cubic feet per second.

2. That the Toronto Company proposes to take the water from the river by means of a wing dam which will be built out from shore just below Tempest Point, a distance of about 400 feet, and thence upstream in the direction of the outer end of the Ontario Power Company's new cofferdam, a distance of about 650 feet, where it will terminate at a distance of about 600 feet from the adjacent shore line. It is proposed that the upper half of the wing dam would be of such height as to hold the water in the space enclosed by it at about 13 feet above its present natural level, and that the lower half of the dam is to be about two feet lower so as to allow an overflow of water and sufficient to carry away the floating ice which may enter at the upper end of the dam.

3. At the lower end of the space enclosed by the wing dam and about the present shore line, the Toronto Company proposes to place its power house, and to supply it with water caught by the wing dam.

4. The lower end of the Toronto Company's proposed wing dam will be about 1,250 feet distant from the centre of the headrace being constructed by the Canadian Niagara Power Company (hereinafter called the Niagara Company) and about 2,300 feet from the headrace of the International Railway Company (hereafter called the Railway Company.)

We have examined the shore line and strength and direction of the currents of the rapids in the vicinity of the works in question, and the effects of the Ontario Power Company's temporary dam already built about 2,200 feet above Tempest Point, and after carefully considering the whole question we are of opinion that the effect of the proposed wing dam of the Toronto Company would be to lower the surface of the river about a foot at the intake being constructed by the Niagara Company, and about half as much at the existing intake of the Railway Company.

Yours respectfully,

(Signed) JOHN KENNEDY, M. Inst. C.E.

(Signed) P. A. PETERSON, M. Inst. C.E.

REPLY OF HUGH L. COOPER TO RAILWAY COMPANY'S ENGINEERS

J. W. Langmuir, Esq., Chairman of the Commissioners,
Queen Victoria Niagara Falls Park.

Dear Sir,—I have read the report of Messrs. Kennedy and Peterson on behalf of the International Railway and dated January 2nd, 1903, and enclosed to you by Mr. T. G. Blackstock, counsel for that company.

This report contains no new engineering feature and the statement therein regarding the level being changed "about a foot" has been answered in previous briefs. I beg to remind the Commissioners that although it is proved in my brief that this reduction in level cannot be greater than three and a half inches we based our arguments on a supposed reduction of seven inches and demonstrated that such a difference was inappreciable in results. The above seven inches and the "about one foot" of Messrs. Kennedy and Peterson contain no differences that can be used as a basis of an argument. This report says the reduction of level in front of the International Railway Company's intake will be about six inches. We deny that this will be six inches and assert that while it may be as much as two inches, that any reduction such as contemplated by the building of the applicants' works should have been anticipated in the designing of the Railway Company's works. This principle and the reasons therefor are both fully set down in former briefs and need not be here repeated.

Respectfully submitted,

(Signed) HUGH L. COOPER.

Toronto, January 7th, 1903.

LETTER OF PARK SUPERINTENDENT SUBMITTING ARGUMENTS
FOR CONSIDERATION OF EXPERT ENGINEERS.

Niagara Falls, January 7th, 1903.

Isham Randolph, Esq., C.E., Chief Engineer, Sanitary District of Chicago,
Chicago, Ill.

Dear Sir,—I am directed by the Chairman of Commisisoners for the Queen Victoria Niagara Falls Park to submit to you the following opinions and memoranda in respect to an application made by Messrs. Mackenzie, Pellatt and Nicholls, of Toronto, for a water power privilege on the Niagara River near Tempest Point within the Park, viz.

(1) (a) Application of Messrs. Mackenzie, Pellatt and Nicholls, together with plans submitted by them.

(b) The written statement made by Messrs. Robinson and Macrae and their Hydraulic Engineers, Messrs. Cooper and Croes.

(c) The rejoinder of Mr. Hugh L. Cooper to the written statement of the Solicitors and Engineers of the Canadian Niagara Power Company.

(2) (a) The written statements of the Solicitors and Engineers of the Canadian Niagara Power Company and the plan accompanying the same.

(b) Their rejoinder to the written statements of the Solicitors and Engineers of the applicants.

(3) (a) The written statements of the Officials and Hydraulic Engineers (Messrs. Kennedy and Peterson) of the International Railway Company.

(b) The rejoinder of Mr. Hugh L. Cooper thereto.

And to request that you will examine into the several questions involved, and furnish the Chairman with your views in respect to the engineering features which are referred to at the earliest moment consistent with a proper investigation.

The principal questions at issue are :

(a) Will the works projected by the applicants, Messrs. Mackenzie, Pellatt and Nicholls, tend to divert the waters of the river from the intakes of the Canadian Niagara Power Company and the International Railway Company ?

(b) To what extent, if any, will the withdrawal of the amount of water proposed, viz., 11,200 cubic feet per second, lower the water surface at the intakes of these two companies ?

You will also be good enough to furnish the Chairman with any observations you may deem essential to the consideration of the subject by the Commissioners and the Government.

I am, sir, yours very truly,

(Signed) JAMES WILSON, Superintendent.

Note. A duplicate of this letter was sent to Robt. C. Douglas, C.E., Hydraulic Engineer, Department of Railway and Canals, Ottawa. J.W.

REPORT OF ISHAM RANDOLPH, C.E.

Chicago, January 12, 1903.

Hon. J. W. Langmuir, Chairman Queen Victoria Park Commission,
Toronto, Canada :

Dear Sir,—In compliance with the request contained in yours of Dec. 30, 1902, I left Chicago on Monday evening the 5th inst. for Niagara, where I arrived at the office of your Commission on the morning of the 6th. Mr. Wilson at once proceeded to place in my hands such data as he had, and to procure, for the joint use of Mr. Robert Douglas and myself, as far as lay in his power, such additional data as we deemed essential to a proper understanding of the grave questions submitted to us. He was able to secure the services of the engineers employed by the Ontario Power Co., and the Canadian Niagara Power Company, respectively, to note and determine instrumentally the courses taken by certain barrels, nine in number, which he caused to be cast off, three from the end of the Ontario Power Company's cofferdam and six above the rapids. These barrel floats we watched with particular interest, as they afforded the only approximate idea, from actual observation, of the courses of the currents through the rapids. These observations and data derived from published reports of the flow measurements of the Niagara River made by the United States engineers, which gave corresponding stages of Lake Erie. The report of the New York Niagara Park Commissioners for the year 1894; information derived from the engineers of the American Niagara Falls Power Company, The Canadian Niagara Falls Power Company; and the Ontario Power Company, coupled with visual observations taken from every available point of vantage overlooking the reach of the river involved in the controversy now pending, relative to the plans of the Toronto & Niagara Falls Power Company cover all of the knowledge that I have been able to avail myself of in reaching the conclusions at which I have arrived. It seems entirely proper for me to state here that I have never before been called upon to reach conclusions on such grave engineering questions upon so meagre a basis of fact. To start out with the question the volume of flow in the Niagara River seems conclusively settled by the work of the engineers of the United States Engineer Corps, for that reach of the river between the International Bridge and the mouth of the Chippewa River; the increment from which river being unknown, is not considered in what is hereafter said about volumes of flow. We find in the report of the Secretary of War for 1900, on page 5360, that the lowest lake level was 570.25 on November 23, 1899, and the corresponding discharge was 165,340 cubic feet per second. That the highest lake level was 573.12, on June 29, 1900, with a corresponding discharge of 231,350 cubic feet per second, and on page 5,361, the mean lake level is given as 572.83, and the discharge as 222,400 cubic feet per second. From the eleventh Annual Report (1894) of the Commissioners of the New York Niagara Park Reservation, I learned that the capacity of the American Niagara Falls Power Company's tunnel is 516,000 cubic feet per minute (8600 cubic feet per second), that the Niagara Falls Hydraulic Company's open channel then had a flowage capacity of 231,000 cubic feet per minute (3,850 cubic feet per second), and that it was being enlarged to accommodate a flow of 462,000 cubic feet per minute (7,700 cubic feet per second). This report claims for the American channel, east of Goat Island, 20 to 25 per cent. of the total discharge of the river. As against this last claim, Mr. Wilson gives as his judgment, that the channel in question carries but 10 per cent. of the total flow. I incline

to Mr. Wilson's belief, but for use in this discussion shall use 15 per cent. as the quota for the American Channel. It also seems proper to use the minimum volume of discharge for our computations. This minimum volume being 165,340 cubic feet, we shall have, after making deduction for the American Channel, 24,800 cubic feet, for the American Niagara Falls Power Company, 8,600 cubic feet; for the Niagara Falls Hydraulic Company, 7,700 cubic feet: aggregating 41,100 cubic feet, available for the Canadian Channel 124,240 cubic feet per second. The element of conjecture in these results cannot be eliminated, however. I have read carefully the application of the Toronto & Niagara Falls Power Company, the protests of the Canadian Niagara Falls Power Company, with arguments advanced in support thereof; the arguments in rebuttal presented by Messrs. Cooper and Croes, and also the protest of the International Railway Company, with the assertions submitted in support thereof by Messrs. Kennedy and Peterson.

From all of the admissions of the protesting company, backed by my interpretation of the contract existing between themselves and your Honorable Commission, I assume that there is, and can be, no objection to the abstraction of the volume of flow asked for by the Toronto Power Company, namely, 11,200 cubic feet per second; and hence that the only basis for protest by the Canadian Niagara Company, must be sought in the form of works proposed by the Toronto Company. The outline of these works is well shown upon the map submitted by that company, and their scope and method is clearly described in the written discussion by Mr. Hugh L. Cooper, their engineer. Hence the question to which I must address myself is a very grave one of the effect of these works, as designed, upon the efficiency of the Canadian Power Company's works as now designed and in process of construction.

In taking up the arguments of Mr. Hugh L. Cooper, we find that he is both resourceful and aggressive, and has a forceful way of presenting his case. I cannot, however, acquiesce in his view that the hydraulic elements of this stretch of the Niagara River can be computed by any known hydraulic formula. This is manifest when we are faced with the following facts:

Distance.....	—Z, is determinable.
The quantity of water.....	—Q, is conjectural.
The slope	—S, is chaotic.
The velocity	—V, is inconstant.

The area of cross section— a , is unknown, and unknowable, and without knowing that the hydraulic radius— r , cannot be determined.

Coefficient of roughness— n , is composite, and hence C , coefficient of mean velocity, cannot be computed.

Mr. Croes presents certain axiomatic statements covering various forms of dams and a comprehensive description of the lay of that reach of rapids coming within the scope of the three several power plants, proposed, and in process of construction.

Observations on Flow.

To state that in flowing streams the natural direction of current, unobstructed, is along straight lines, is a fact only to be qualified by the further statement that the flow is on the line of least resistance, is only asserting a truism known to all who have occasion to observe the habits of streams. It is further true that where a stream departs from a straight line, the water is higher on the concave bank than it is on the inner, or con-

vex, bank; this difference is scarcely to be detected where velocities are low, but under high velocities the piling up on the concave shore becomes a marked effect. Between the south end of Queen Victoria Park and the chasm which makes the cataract, the shore curves to the right (or east) through, probably, 80 degrees of central angle, and the onrush of the current, with inconstant velocities varying between 8 and 17 feet per second, piles the water up on the concave shore to a considerable height. The effect of this has been to erode the deepest channel on the westerly side of the centre of the stream. So markedly is this true, that to wade out from the easterly shore at Terrapin Point, just above the Falls, for a distance of several hundred feet, does not seem to me to be a venture fraught with much peril; whereas on the opposite shore, even to fall off the bank would mean almost sure destruction for the unfortunate who did so. The building of the cofferdam by the Ontario Power Company, as shown upon the maps on file with your Honorable Commission, has served to shut off all of the water which formerly flowed around Dufferin Islands and to lay bare all of the area lying between it and the shore and a line drawn from the downstream end of the cofferdam to a point about 400 feet southerly from the south end of the Suspension Bridge crossing the north channel around Dufferin Island. Notwithstanding this radical diversion of an immense volume of flow from its normal course, the pitch toward the west shore is so tremendous that the water against the crib on Tempest Point (as indicated by water mark on the timbers of the crib), is scarcely two feet lower now than it was before the diversion took place and the readings on guage No. 4, which is about 950 feet northerly from Tempest Point, and 450 feet south of the southerly end of the Canadian Niagara Falls Power Company's crib, taken before the building of the cofferdam, and regularly since, show an average reduction of level for corresponding stages of water, as determined by the readings on guage No. 1 at Chippewa, based on monthly means, of about 65-100 of 1 foot. Hence, it seems reasonable to believe that the change of level at the intake of the Canadian Niagara Falls Company, 500 feet lower downstream, will be nearly what it was before the building of the cofferdam by the Ontario Company. Strangely enough, there is no positive information to support or rebut this assumption.

The charted courses of the several barrels cast off at varying distances from the shore on January 6th, for the purpose of gaining information as to trend of currents, has a strong bearing on the questions at issue, as they afford the largest amount of knowledge upon this subject which is now available. Prior to the building of the Ontario Company's cofferdam, that company caused five (5) barrels to be cast off from a trestle which it had constructed near the Southern limits of the Park domain. The courses taken by these barrels are shown upon the chart, and it is a significant fact that the three barrels cast off from the end of the cofferdam on the 6th inst. were driven shoreward until they nearly reached the path of the previous barrels, which path they thereafter followed substantially. The barrels cast off in the upper river (numbered consecutively from the first one cast off from the cofferdam), showed the following results:

No.	Crossed line of upper reef.	Passed Canadian Niagara Falls cofferdam.
4.	270 feet from north end of cofferdam.	215 feet from its face.
5.	540 feet from north end of cofferdam.	325 feet from its face.
6.	350 feet from north end of cofferdam.	40 feet from its face.
7.	380 feet from north end of cofferdam.	175 feet from its face.
8.	1200 feet from north end of cofferdam.	1400 feet from its face.

The ninth barrel was carried into the American shore above the rapids. Crude as these experiments for determining the direction of currents were, they are yet the most positive indications bearing upon the subject of which I have been able to gain any information, and they serve to confirm the impressions made by purely visual observation of the currents.

The purpose of the Ontario Company, as it has been explained to me and as is indicated by the plans of their proposed work, in your possession, is to divert from the channel of the river toward the intake of their conduits a water volume of more than twice the capacity of their said conduits and to waste the surplus over a spillway or submerged wier lying between the wing dam and their intake. Assuming the works of the Toronto Power Company to be built as shown upon the plans accompanying their petition to your Honorable Commission, the overfall from the works of the Ontario Company would closely approximate to the 11,200 cubic feet per second asked for by the Toronto Company. The additional volume entrained by the partially submerged training wall, provided for in the plan of the petitioners, would be superfluous water, could the waste from the Ontario Power catchment basin be made available without the construction of works to hold the water, approaching the intake of the petitioner, up to the proposed level of 533. These works, however, are necessary for the reasons set forth by Mr. Hugh L. Cooper, engineer of the petitioner. The entrained and impounded water being greatly in excess of the needs of the petitioner, provision is made for the return of the surplus to the river channel over ample waste weirs. The entraining wall being well within the limiting line, prescribed by you, drawn from the intersection of the south boundary of the Park to the southeast angle of the cofferdam of the Canadian Niagara Falls Power Co., it is manifest that no water east of its line of direction will be diverted from its course toward the intake of the objecting company. It is further manifest that the tendency of the water flowing along the easterly side of the entraining wall, will have a tendency to sweep shoreward around the northwesterly end of this wall where it joins onto the overfall dam extending out from the petitioner's power house to meet it, and that this tendency will give a shoreward impulse to the water escaping over the crest of the overfall dam.

ICE.

I do not believe that the ice problem is one which need cause the objectors any serious apprehension. From conversations had with gentlemen, whose personal observations entitled them to speak with knowledge on the subject, I learned that the ice run on the Canadian side of Goat Island is inconsiderable, as the prevailing winds drive the ice to the American shore. Should there come an exception to this habit of the ice on the river, the effects could not be worse than those which would obtain if the works of the objectors were the only works between the south end of Queen Victoria Park and the Cataract.

Channel Contraction.

In considering the question of water levels, the effect of channel contraction must not be lost sight of. The work of the objecting company has tended to narrow the channel by encroachment thereupon, by filling out from the old river margin to the new shore line established by your honorable Commission. What the effect of this construction must be, I cannot state upon any basis of actual knowledge, but that will be an appreciable element in the readjustment of levels, is beyond cavil, and it may even

correct any small depression in levels feared as a result of the execution of the plans of the petitioner.

I wish to express my appreciation of the courtesies extended to me and the aid afforded by the officers and engineers of the Canadian Niagara Power Company and the Ontario Power Company. These gentlemen permitted me to examine their plans and gave me oral information which has been of great value to me in reaching the conclusions at which I have arrived. The plans of the Canadian Niagara Power Company show their intake grade as 501.5; width of intake, 250 feet, clear of obstructions; depth of water through intake, 15 feet maximum; 13 feet minimum, corresponding to elevations, 516.5 and 514.5 respectively. Elevation of bottom of tunnel, at north end of wheelpits, 353.00, height of tunnel 25 feet, hence elevation of intakes will be 378'. By deductions from these elevations it is evident that the head of 136 feet used in these discussions is predicated upon the minimum water surface (514.5), with a margin of half a foot for good measure. With this exhibit to sustain me, I am able to felicitate the men who are putting up the money for this development, upon the fact that their engineers have designed their works upon a reasonable margin of variations, and not upon the theoretical exactitude for which they argue so strenuously in their protest against the Toronto Power Company's proposed development. In this connection it is instructive to note that the intake of the American Niagara Falls Power Company, designed to supply the same volume of flow as its Canadian counterpart, is 250 feet wide, clear of obstructions; was designed for a depth of 12 feet, and has a normal variation in depth of three (3) feet and an abnormal variation several feet in excess of that, and yet that plan is effectively workable under all conditions.

Map of July 16th, 1902.

The Canadian Niagara Power Company has submitted a map with the official certification of its resident engineer to the effect that the plan shown thereon "was completed on or before July 16th, 1902," and that the same "is now exactly as it was at that time." The location of the plant which they are now building is shown in black, and in red ink is shown a duplication of same at Tempest Point occupying the river front at the site selected by the present applicants, but extending back into the Park grounds. This plan and statement I accept as proof positive that the protesting company does not regard the taking of a volume of water sufficient to operate such works as a damage to the plant which they are already constructing. After giving my best thoughts to all of the matters and things which have come before me, bearing upon the grave questions at issue, I now sum up my conclusions :

Conclusions.

First. That the plan and form of construction proposed by the petitioners will not lower the level of water in front of the intake of the Canadian Niagara Power Company, to a greater extent than that which has resulted from the construction of the coffer dam of the Ontario Power Company, which lowering, if any, is not now ascertainable, as the only reliable observations bearing upon the effect of said coffer dam were taken 500 feet south of the intake of the objectors.

Second. That a lowering of a few inches is not a matter which deserves serious consideration in a water supply subject to fluctuations of at

least two feet; which fluctuation has been recognized and provided for in the plans of the objecting company.

Third. That what has been said with regard to the works of the Canadian Niagara River Company objectors, applies with even greater force to the conditions obtaining at the intake of the International Railway Company objectors; for the experts, whom they employed to present their cause, assert that the lessening of head at their intake will be just one-half of the loss of head of the intake of the Canadian Niagara Power Company (their assertion being that said lowering in the two cases would be one foot and six inches respectively), which assertion is unsupported by any sustaining data.

As an appendix to this report, I submit the letter of reference addressed to me by James Wilson, Esq., Superintendent of the Queen Victoria Park Commission.

Holding myself subject to further interrogation by you, I have the honor to be,

Yours very truly,

(Signed) ISHAM RANDOLPH,

Advisory Engineer.

REPORT OF ROBERT C. DOUGLAS, C.E.

Ottawa, Canada, January 20th, 1903.

J. W. Langmuir, Esq., Chairman Queen Victoria Niagara Falls Park Commissioners, Toronto, Ontario :

Sir,—In answer to your communication of the 30th December, 1902, stating that the Commissioners of the Queen Victoria Niagara Falls Park desired certain opinions upon several questions in connection with water power privileges, also referring me to Mr. Wilson, the Superintendent of the Park, for particulars and information, I have the honor to report as follows :

By letter of January 7th, 1903, reference was made by Mr. Wilson, (in summary); an application of the Toronto Niagara Power Company for a concession of water-power privileges. The reports of Hydraulic Engineers in support thereof with statements of Solicitors.

The reports and statements of Engineers and Solicitors of the Canadian Niagara Power Company in opposition to the application of the Toronto and Niagara Power Company.

The report and statements of Engineers and Solicitors of the International Railway Company, who adopt the observations and conclusions presented by the Canadian Niagara Power Company. The principal questions referred to were :

To what extent, if any, will the withdrawal of 11,200 feet per second lower the water levels at the intakes of the latter companies ?

Will the proposed works of the Toronto and Niagara Power Company tend to divert the water of the river from the intakes of these companies ?

Any observations that might be deemed essential to the consideration of the subject by the Commissioners.

I have made an examination of the Niagara River and its marked features, and carefully considered the various statements and reports referred; it appears unnecessary to repeat the description of works and measurements fully set forth in the numerous reports and the official plans before the Commissioners.

Taking into consideration the magnitude and importance of the various interests established, and proposed to be established, the technical data with regard to the river available is meagre. Mr. Wilson, for the information of Mr. Randolph and myself, made nine float experiments, under not favorable conditions, but with instrumental observations, which, with some similar data furnished by the Ontario Power Company, was the only material available, other than by mere visual inspection.

To answer the query, to what extent, if any, will the abstraction of 11,200 cubic feet per second from the river, lower its surface, is difficult when discussing a river of unexampled features, with its magnitude of volume of flow, broken by heavy surging water, with various velocities and courses of flow, and subject to frequent fluctuations of level and consequent variable volume of water discharged.

The question cannot be answered upon the original normal regimen of the river, disturbed as it is, but on a new regimen, which will be created by the erection, in the bed of the river, of the structures of the Ontario Power

Company, and of the proposed works, the effects of these works upon the river being unknown, together with the limited technical data available, renders an answer to the question a matter of conjecture.

As to what extent the withdrawal from the river of the volume of water mentioned will lower the water level of the river at the intakes, it may be said the water level, theoretically, will be lowered: the number of inches below any datum plane of the river, I cannot estimate.

The Queen Victoria Niagara Falls Park Commissioners have leased to the Canadian Niagara Power Company and the Ontario Power Company some 21,000 cubic feet per second, and have recommended a further lease; what quantity is it judicious to lease without injury to the Canadian Power Company?

The minimum discharge of the river is stated to be 160,000 to 170,000 cubic feet per second. The discharge at mean level of Lake Erie 222,400 cubic feet per second; if a basis of a minimum flowage of 165,000 cubic feet per second be taken, from that amount deduct the quantity which may be diverted for power upon the New York Niagara Falls developments, say 25,000 cubic feet per second. The approximate flowage upon the United States side of the boundary line could not be obtained.

The quantity of water, available, by an economic construction of works, to divert for the purpose of power upon the Canadian shore, could, approximately, be determined by an hydraulic survey; about one-third of the previous balance will be assumed, or say 45,000 cubic feet per second; the leasing of this additional 11,200 cubic feet per second, or in all, 32,200 cubic feet per second, would not, in my opinion, be an injury to the present lessees through loss of head to any appreciable extent.

In connection with this question, and the larger question, the effect of the construction of the proposed works by the Toronto Niagara Power Company. The statement will be taken up of the Canadian Niagara Power Company, endorsed by the International Railway Company, of the prospective injury of a loss of head of one inch, and of the serious loss to a water plant of one foot or more.

The following water-power companies for the purpose, as expressed in the lease, allow a variation of one foot,—

"To prevent disputes as to power of each privilege in the variation of the height of water from changes of season or other causes."—

The Lowell, Lawrence, Holoche, Amoskeag (Manchester) Water-power Companies and the Minneapolis Mill Company.

Upon the canals, under the control of the Department of Railways and Canals, Canada, the general terms and conditions for leasing water-power, 1890, provide for a variation of head of six inches in calculating power between the level or reaches of a canal, these levels are maintained, except during lockages, constant. Between a standard level of a canal when the tail water discharges into a river, lake or water course, one foot variation is provided for.

In the power developments of the Canadian Niagara Power Company and the Allied Company upon the New York side, I am informed, a variation of levels or head of water of two and three feet respectively is provided for.

Mr. Randolph, the Engineer of the Chicago Drainage Canal, has informed me he intends to provide for a variation of three feet in head upon the prospective water-power development upon that canal.

In consequence of the variations of water levels of Lake Erie and consequently of the Niagara River, the variation of head produced by the withdrawal of the quantity of water in question, and the allowance for such variations just quoted, become a minor consideration.

To the important query, to what extent the proposed works, of the Toronto Niagara Power Company, will tend to divert the waters of the river from the intakes of the Canadian Niagara Power Company and the International Railway Company, it may be remarked,—

The Engineers of the Canadian Niagara Power Company maintain the proposed works will permanently lower the water at its intake, several feet, exactly how much it is impossible to calculate, but in their opinion it would be at least three feet or four feet.

The Engineers of the International Railway Company state the proposed works will lower the surface of the river one foot at the intake of the Canadian Niagara Power Company, and about one-half as much at the present intake of the Railway Company.

In connection with the above, the Solicitors of the Railway Company, adopt *mutatis mutandis* the observations and conclusions contained in the reports and memoranda presented on behalf of the Canadian Niagara Power Company. What head do the Solicitors assume in the interest of their clients?

The Engineers of the Toronto Niagara Power Company state the loss of head will be, at the intake of the Canadian Niagara Power Company, three and a half inches, but that their arguments were based upon a loss of head of seven inches; they deny the loss at the intake of the railway company, will be six inches, but it may be as much as two inches.

In offering an opinion upon this probable loss of head, through the construction of the proposed works, it may be remarked, the information available to us, other than the personal inspection, upon which the reports of the various engineers is based, is the plan of direction and velocity of the test floats whose course was observed by us.

The plan of the proposed works of the Toronto Niagara Power Company outlines an impounding dam within the line of the principal filaments of current near it; the dam is practically parallel to the axis of the current and it may be termed as suggested in the reports of the engineers of the above company, a training wall. Training walls and training banks are terms commonly used in the improvements of rivers and are generally constructed in the direction of flowage for cutting off sinuosities or other causes.

The engineers of the Canadian Niagara Power Company maintain that the stillwater basin (it may be called a mill pond), proposed to be constructed higher or as high as the surface level of the centre of the river, would direct the main volume of flow of the river to the centre of the Horse Shoe Falls. This opinion applies in a lesser degree to the still water basin proposed to be constructed by the Ontario Power Company.

With the facts available to form an opinion upon, I cannot apprehend the grounds for this opinion, other than would apply to the impounding

dams; these basins might be termed training banks in the direction of the training wall or dam.

It is not feasible to calculate or estimate, in my opinion only the loss of head through the diversion of water from the intakes of the Canadian Niagara Power Company and the International Railway Company by the proposed works, except by a doubtful approximation.

The construction of the coffer dam of the Ontario Power Company and the consequent alteration in the regimen of the river supply a practical indication of the probable action of the river when the proposed works of the Toronto Niagara Power Company are constructed. The dam diverted, from its direction of flow, a large volume of water; 4,000 or 5,000 cubic feet per second of that volume, are stated to have been discharged around Dufferin Island.

The entire flowage diverted is mentioned by the engineers of the Toronto Niagara Power Company as some 50,000 cubic feet per second. Whatever quantity this flowage may be, it was diverted from its normal course in the line of Dufferin Island and the banks of the Park into the river on a line with an extension of the line of the proposed wing dam of the Toronto Niagara Power Company.

The engineers of the Ontario Power Company have made daily observations of the water levels at various stations, both previous and subsequent to the construction of the coffer dam. I compared, from the records, similar daily readings at the gauge at Chippewa and at a gauge on a point some 450 feet above the coffer dam of the Canadian Niagara Power Company, these readings embracing a period previous and subsequent to the construction of the coffer dam; there was a difference of nearly eight and a half inches, a lowering of the surface of the river to that extent, or a loss of head of eight and a half inches at this gauge, caused by the construction of the coffer dam.

The level of the surface of the river below its former level at Tempest Point, some 950 feet above the gauge, is stated to be two feet. Between Tempest Point and the lower gauge by the depression of the river below its former level a known number of inches, at each station in a given distance, there may be estimated the present hydraulic gradient between those two points in an approximate manner.

If the depression of the river at the lower gauge be termed a loss of head of eight and a half inches, the loss of head at the intakes below will be decreased in proportion to their distance from the lower gauge.

I am unaware of any method by which can be determined the loss of head in inches at the intakes in question, resulting from the construction of the proposed works. There will be established another hydraulic gradient by the removal of the present coffer dam; by the construction of the impounding dam of the Toronto Niagara Power Company; by the abstraction from the river of 22,200 cubic feet per second for power; by the overflow of the weir of the Toronto Niagara Power Company into a course tributing to the lower intakes; with these elements of uncertainty and dealing with a river of the description of the Niagara River, the only opinion I can give would be that the present loss of head at the lower gauge is a fair index of the future loss of head, and that the proposed works will not tend

to divert the waters of the river from the intakes to the extent of a calculable damage.

I may remark with regard to the subsidiary question, but one of importance, is the need for the construction of a wing dam below the intake of the Canadian Niagara Power Company, to maintain the level of the river at the intakes, if diverted by structures, permanent or temporary, into channels other than into the still water basins.

The engineers of the one company characterize a wing dam a useless undertaking, for which there is no necessity.

The engineers of the lower companies consider its construction necessary to maintain the head at the intakes through the apprehended diversion of water towards the centre of the river.

The Niagara River in its magnitude, its great velocity, its diverse currents of rough water, and its varying fluctuations of level, is a river to which ordinary practical engineering experience or theory cannot be applied.

Structures, erected in the beds of rivers for various objects, by able engineers of experience, have resulted in exciting energies or current and flowage unforeseen, and actions not predicated.

With the little information before me I am not prepared to call a wing dam "a useless undertaking," although it might not be an absolute necessity, its benefits might be such to the two intakes as to justify the cost of erection, which would be little in comparison with the large proposed development of power.

I might suggest that the Commissioners establish a datum plane of the river, at the intakes of the companies complaining, determine the loss of head below this plane, to which they will be subject by their agreements, set water level gauges at the intakes with reference to the plane, the daily readings of which, before, during and subsequent, to the construction of works, will determine the necessity of a dam from the action of the proposed structures temporary or otherwise.

I have to acknowledge the courtesy of Mr. Wilson, the Superintendent of the Park, also that of the officers and engineers of the Canadian Niagara Power and the Ontario Power Companies, who were always ready to afford any information relative to the inquiry.

I have the honor to be, sir,

Your obedient servant,

(Signed) ROBERT C. DOUGLAS, C.E.

Toronto, January 19th, 1903.

CONCLUDING REPORT OF PARK COMMISSIONERS TO THE GOVERNMENT.

Hon. G. W. Ross, Premier, etc., etc., Parliament Buildings, Toronto :

Dear Sir,—In compliance with the request you made on the 19th December last, at the hearing given by the Government to the various companies and parties interested in the development of electrical power at Niagara Falls that they should reduce to writing the arguments used at that meeting, I now beg to report that the applicants for a franchise (Messrs. Mackenzie, Pellatt and Nicholls), the Canadian Niagara Power Company and the International Railway Company have furnished the Commission in writing with their respective arguments before the Council with such amplifications as they deemed essential to the presentation of their case.

Upon the reception of these written briefs, the Commissioners considered it judicious to furnish each of the parties with copies of the reports and arguments advanced by the others for such criticism or rejoinder as each might consider necessary. When the Commissioners received all the reports and memoranda and acting upon your instructions, two eminent hydraulic experts were engaged to examine into all the questions at issue and to report fully upon the arguments set out in the respective briefs.

The engineers selected were Mr. Isham Randolph, C.E. (chief engineer of the sanitary district of Chicago, a work in the construction of which over \$35,000,000 has been expended), and Mr. Robert C. Douglas, hydraulic and bridge engineer of the Department of Railways and Canals, Ottawa. These gentlemen visited Niagara Falls and made as thorough an examination into the physical conditions existing at the present time as was possible, and also examined the works which have been constructed up to this date for the various power companies to whom franchises have been given. I have now received the report of Mr. Randolph, but regret to say that in respect of Mr. Douglas' report, that gentleman finds on his return to Ottawa that his official superiors will not sanction his making a report upon matters outside of his departmental work; the Commissioners therefore have to depend upon the report of Mr. Randolph.

Upon a full consideration of Mr. Randolph's report the Commissioners are of opinion that the statements made by the applicants that the flow of water and the level of the river at the intake of the Canadian Niagara Power Company will not be materially affected by the proposed works of the applicants as they are outlined in the plans attached to the applications, are substantially correct.

In view, therefore, of the report of Mr. Randolph, the Commissioners, upon a full review of the subject, see no reason why the application of Messrs. Mackenzie, Pellatt and Nicholls should not be granted, subject to the conditions recited in the memorandum submitted by the Commissioners at the hearing of the case before the Council on the 19th December last.

I beg to transmit herewith the various documents and reports in connection with the matter.

I am, yours truly,

(Signed) J. W. LANGMUIR, Chairman.

REPORTS UPON AVAILABLE SITES REMAINING FOR POWER PLANTS

AND

COST OF TRANSMITTING ELECTRIC ENERGY TO CITIES AND TOWNS IN ONTARIO

Toronto, 28th February, 1903.

My Dear Sir,—I am desirous of having a report from some hydraulic engineer of high standing upon the remaining sites at Niagara Falls where electric power could be generated on a large scale. I understand from you that in granting water-power privileges to the Canadian Niagara Company, the Ontario Company and to Messrs. Mackenzie, Pellatt and Nicholls, the Commissioners had not exhausted the field, and I should like to have this confirmed by an engineer whose opinion could be accepted as final.

I should also like to have an authoritative report upon the cost of transmitting electrical energy from Niagara Falls to cities and towns within a radius of 100 or 150 miles, showing the cost of construction of the lines for various amounts of power, and the approximate loss in transmission, say at each unit of 50 miles, and also the probable cost of maintaining such lines.

Will you be good enough to take steps to secure these reports as soon as possible?

Yours truly,

J. W. LANGMUIR, ESQ.,

(Sgd.) G. W. ROSS.

Chairman Queen Victoria Niagara Falls Park, Toronto.

REPORT OF ISHAM RANDOLPH, C. E., UPON THE FURTHER DE- VELOPMENT OF THE NIAGARA RIVER FOR POWER PURPOSES.

Chicago, April 4th, 1903.

J. W. Langmuir, Esq., Chairman Queen Victoria Park, Niagara, Ontario:

Dear Sir,—Pursuant to your request, I have made a study of the hydraulic conditions as the same affect power development along the Niagara River, between the mouth of the Chippewa River and Queenston, and I now have the honor of reporting to you the conclusions at which I have arrived as the result of my investigations. To give me fuller familiarity with the several localities which I am about to discuss, I supplemented former visits to the Falls by spending March 27th and 28th there. The question with which I have to deal may be formulated thus: Have the available sites for water power development on the Canadian side of the river been exhausted by the acquisition and occupation of the four several sites within the domain of Queen Victoria Park for which charters have been issued

by the Government of Ontario? I answer most emphatically, no; and in support of my position I submit the following array of sustaining facts. First, I will take up that reach of the river which begins at the mouth of the Chippewa River and ends at the steel arched highway bridge below the Falls. To illustrate the situations which come first in order of discussion, I submit a map drawn on a scale of four hundred feet to one inch, marked Exhibit "A." On this map the respective locations of the Ontario Power Company, the Toronto & Niagara Power Co., the Canadian Niagara Power Co., and the Niagara Falls Park & River Railway Co.—the first mentioned three being now in process of construction—are shown and named, and the available but unappropriated sites are numbered 1, 2, 3 and 4. G. K. Gilbert, Geologist U. S. G. S., states in a report dated May, 1901, "It (the Niagara River) affords enormous water power, of which five million horse power is readily available." Between the mouth of Chippewa River, where the mean elevation is taken as 561 above sea level, and the pool at the foot of the Falls, elevation taken as 342.4, with the volume of flow given by the United States engineers as 222,400 feet per second, we arrive by computation at a total gross horse-power of 5,542,814. The river front between the mouth of Chippewa River and the south boundary of the Park domain affords sites for locating power plants which have marked advantages over those located within the bounds of the Park property, the only disadvantage being in the longer tail water tunnels. The advantages are cheaper preliminary construction, due to the comparatively still water in which the work must be done; less extensive, and hence less costly, wing-dams, and lastly, greater available head. I show upon Exhibit "A" (map) three suggested power plants occupying a river frontage of 2,700 feet in length; the northerly plant (No. 3) being 600 feet south of the Park limits. These locations are numbered from the south 1, 2 and 3 respectively, the tunnels, leading from them, to discharge in rear of the cataract, as is planned for the Toronto & Niagara development. The elevation of the bottom of the tunnel at the discharge end is in each case assumed as 338.3, and the ascending grade in the tunnel is taken as 7 feet per 1,000 feet (which is the grade used in the Canadian Niagara Power Company's tunnel, the dimensions of which, 18x25 feet, are also adopted). The length of this tunnel will be approximately 6,220 feet. The elevation of the intrados will therefore be 406.84. The available head will be 151 feet nearly, and the water required to develop 100,000 net horse-power, assuming an efficiency of 75 per cent., will be 7,776 cu. ft. per sec. The tunnel leading from location No. 2 will be 5,450 feet long, the available head 156 feet, nearly, and the water required to produce 100,000 net horse-power (75 per cent. efficiency) 7,507 cu. ft. per sec. The tunnel leading from location No. 3 will be 4,300 feet long, the available head 164 feet, nearly, and the water required to produce 100,000 net horse-power (75 per cent. efficiency) 7,140 cu. ft. per sec. Any one of these three sites when developed would have a decided advantage over the American Niagara Falls power development on account of its freedom from ice gorges. The experiences of the past spring have served to emphasize the advantage which the Canadian side of the river possesses over the American side when ice is running. I will not go into estimates of cost in this discussion, further than to show by analogy that either one of the three sites discussed above can be developed at a much less cost than was involved in the development of the American Niagara Falls Power Plant. In the first place, no head race need be constructed, as the buildings may be located as I have shown them, and the water can pass from the river proper into the intakes. The tunnels will be shorter. The

tunnel for the American plant is 7,000 feet long, whereas the lengths of the three tunnels suggested for the locations covered by this discussion are, respectively, 6,220, 5,450 and 4,300 feet in length. The three suggested sites do not exhaust the possibilities of power development on this upper level of the river.

I have to suggest a further development, near the cataract, which is numbered 4 on the map. This development calls for a subterranean power house; such a power house, though unusual, is not an original suggestion, for there is such a one at Snoqualmie Falls, Washington Territory, 34 miles from Tacoma. There the shaft is 250 feet deep; the subterranean rock chamber is 200 feet x 40x30 feet. The length of the subterranean chamber in the proposed No. 4 development would be governed by the size of the units adopted for the service. Its width need not exceed forty (40) feet, nor its height, from floor to ceiling, thirty (30) feet, if the rock admits of using a flat ceiling, nor forty feet if it should be found best to use an arched ceiling. I will state here that I have been in cement quarries in Indiana where I have seen perfectly flat ceilings of limestone, unsupported for spaces of ninety (90) feet. Allowing for a margin of one foot outside of neat lines of such a subterranean chamber with arched roof, the cubature per lineal foot of length would be 59 9-10 yards; allowing \$5.00 per cubic yard to cover the cost of excavation and lining (I am advised that the going price for tunnel excavation at Niagara is \$3.50 per cubic yard), the cost per lineal foot would be \$299.50, which would bring the cost of a chamber, 600 feet long, up to \$179,700.00. A chamber such as this, close to the cataract, would have an advantage over a power house built in the open, correspondingly near to the cataract, because it would be free from the spray effects. To secure the water necessary for operating this plant, it would be necessary to run an impounding wing-dam on (as shown in Exhibit "A") from the north side of the intake of the Niagara Falls Park & River Railway Co.'s intake of such length and dimensions as would provide ample volume both for the existing plant and for the proposed development. The intakes for the proposed development would be located southerly of and adjacent to the intake of the existing plant. The available head for this development would be about 155 feet, and the water required to develop 100,000 net horse-power (75 per cent. efficiency) 7,574 cu. ft. per sec. The tail-water tunnel for this development would be only 450 feet long. The only structures connected with this plant which would be visible in the Park would be a shaft head house, which could be made an ornamental, even a monumental structure, and the intake works along the shore line.

The water required for the four suggested developments would be:

For No	Cubic feet per sec.
1	7,776
2	7,507
3	7,139
4	7,574
Total for proposed plants	29,996

The volume of water used in the N. F. P. & Ry. plant is not considered.

	Cubic feet per sec.
Ontario Plant	12,000
Toronto Plant	11,200
Canadian Plant	8,900
	<hr/> 32,100

Total chartered and suggested development on Canadian side from the river above the Falls calls for 62,096 cubic feet per sec.

The American developments now in operation and arranged for from the high level of the river calls for the following volumes of water:

	Cubic feet per sec.
American Niagara Falls Power Co.....	8,600
Niagara Falls Hydraulic and Manufacturing Co....	7,700
	<hr/>
Total on American side	16,300
Total on Canadian side	62,096
	<hr/>
	78,396

81,396 cubic feet per second out of a total of 222,400 cubic feet per second, or an appropriation of 35.14 per cent. of the available water to develop power; leaving 144,006 cubic feet per second to continue the scenic effects of the cataract.

Water-power in the Niagara Gorge.

The second division of this discussion has to do with the River below the Steel Arched Highway Bridge.

I find in the report of your able Superintendent, Mr. James Wilson, for the year 1897, a discussion of five possible developments on the lower River. The first of these to have its intake just above the Cantelever R. R. Bridge, and its discharge 3,500 feet down stream, developing under a head of 30 feet. This development as discussed by him is entirely feasible along the lines which he recommends, and a power of great value awaits preemption there. Mr. Wilson's suggestions are tentative and a very careful study of all the conditions which affect this situation must be made before the plans for development are entered upon. From data furnished me by Mr. Wilson it is evident that there will be violent changes of head for any water-power development in the Niagara Gorge, as the gauge readings show an extreme oscillation of 15 feet nearly. This oscillation makes me doubt the propriety of attempting the development of Mr. Wilson's suggestions No. 2 and No. 3 on seven foot heads, as a low head, subject to variations twice as great as the head itself, is of doubtful utility. Developments No. 4 and 5 having head respectively of 20 and 14 feet, are each meritorious suggestions, which like No. 1 must be worked out carefully in detail to reach the best results. I have not had time at my disposal to follow this work to a conclusion, but I have examined the conditions sufficiently, both upon the ground and by a careful consideration of Mr. Wilson's report, to satisfy me of the great value of the water-power possibilities which exist in the Niagara Gorge.

Respectfully submitted.

ISHAM RANDOLPH,
Advisory Engineer.

REPORT ON LONG-DISTANCE HIGH-TENSION TRANSMISSION.

By L. L. and P. N. Nunn, Electrical Engineers.

The purpose of these recommendations is to provide for the transmission of power by means of three phase, twenty-five cycle, alternating electric current.

The requirements will be given in detail for the delivery of twenty thousand horse-power at the terminus of transmission, and, by comparison, the requirements for both ten thousand horse-power and thirty thousand horse-power.

Duplicate Lines.

We recommend for twenty thousand horse-power a transmission of the general type and construction shown by accompanying exhibit A, consisting of two distinct pole lines, entirely separate, except at junction points, each carrying the three conductors necessary for a complete three wire, three phase transmission.

By means of the junction points, each of the above pole lines is divided into sections of approximately twenty miles each. At each of such junction points the conductors of the two otherwise separate pole lines are brought together and paralleled, or cross connected, and each of the four termini of the four sections thus connected is equipped with a triple pole automatic switch. Such equipment occurs at each end of each of the divisions comprising the two pole lines.

The purpose of the automatic switches, in short, of the whole junction point design, is to provide means whereby any one of the sections may be cut out of the service without interrupting the operation of the remaining sections, and the purpose of using automatic switches, or circuit breakers, is to provide means by which the sections may be automatically cut out, in case of accident, so promptly as to prevent appreciable disturbances throughout the system.

Continuity of Service.

for important industries, is a prime requisite of any source of power, and while any power line properly equipped and thoroughly constructed upon a favorable right of way should cause but little interruption, nevertheless it has always been recognized, and is still correctly regarded, as the weakest link in the chain of transmission. With duplicate water wheels, or engines, generators, transformers, in short, with everything also in duplicate, it is regarded as essential for the best results that pole line be also in duplicate.

In addition to the mere advantage of duplicate conductors in case of accident, there is also another and important advantage in the provision by means of which any section properly patrolled may usually be cut out of service, repaired and returned to service, before actual accident occurs.

Whereas, when one of duplicate generators, water wheels or transformers is removed from service, but one-half of the load can be carried, the above design of duplicate lines provides for the removal of the above sections, one at a time, without affecting the amount of power transmitted, and with a temporary increase in the loss of transmission of only a few per cent.

Another, and in this case very important, advantage derived from a duplicate line lies in the more favorable "Regulation," or fluctuation, in voltage at delivery, due to the varying loss of electric potential in the transmission. These variations or fluctuations of voltage with duplicate transmission are but approximately one-half as great as with a single circuit, while the corrective effect of charging current, due to electro-static capacity, in relieving producer from the losses due to idle current, is substantially twice.

Greater cost may be urged as an objection to duplicate lines. When the amount of power to be transmitted is large, as in this case, requiring large conductors, the cost of copper is an almost controlling factor in the cost of transmission. This cost for copper, for such a given amount of power, transmitted at a given loss, is no greater for duplicate than for single transmission: the conductors in the former case being required of just one-half the weight of those in the latter.

Right of way is likely to be the next most important element of expense. The cost of a wider strip is usually but slightly greater than that of a narrower strip, because the principal element of damage to property lies in the cutting of premises, rather than in the acreage purchased. Moreover, of the total expense for right of way, legal and other contingent expenses are likely to be greater than the amount actually paid for property, and these contingent expenses are no greater for the duplicate line.

Thus poles, cross arms, pins and insulators become the only elements of transmission expenses which are proportionally greater for the duplicate line.

Voltage.

We recommend the use of sixty thousand volts for this transmission.

High voltage is desirable because of the small amount of copper required, and consequently lessened cost of line. There is a certain loss of energy in all electrical transmission, due to the heating of the conductors.

In determining the voltage and size of conductors for any line, this energy loss is generally assumed at a certain allowable amount.

The relation of voltage and size of wire is such that for any given amount of power transmitted the size of wire decreases as the square of the voltage increases. For instance: At forty thousand volts a certain amount of power transmitted requires No. 000 wire, the loss by heating being 6.6 per cent.; at eighty thousand volts the same power can be carried with the same per cent. of loss by a number four wire, which is only one-fourth as large as number 000 wire.

There is a limit, however to the voltage for which we can obtain suitable insulators at the present day. There are in successful operation several transmissions using forty thousand and fifty thousand volts, and perhaps if the line were to be put into operation at once we would find it necessary to limit the voltage to the above figures, which are undoubtedly the commercially advisable pressures for the present day. On the other hand, there are in the process of being perfected insulators which promise well to stand up under eighty thousand volts, and there is little question that within the next two or three years eighty thousand volts will be as practical as is forty thousand at the present time. Hence our recommendation for sixty thousand volts in this case.

Conductors.

Accepting a pressure of sixty thousand volts, we recommend the use of No. 00 B. & S. gauge copper wire. The energy loss would be approximately 7 1-2 per cent. when the line is carrying its full load of 15,000 kilo-volt-amperes, which is, at unity power factor, twenty thousand horse-power for the duplicate line, or ten thousand horse-power per single line.

We recommend bare wire. All ordinary insulators are worse than useless as a protection against sixty thousand volts. It is possible that a fallen wire may be prevented by it from grounding sufficiently to open the circuit breakers, and cut it out of the line, and still be deadly to any person who might touch it.

Adequate insulation for protection against such voltage would be too costly to be considered.

TABLE OF VOLTAGES AND COPPER SIZES SUITABLE FOR MEANS OF FOLLOWING DISTANCES:

PER MILE OF DUPLICATE TRANSMISSION.

40 000 volts per 50 to 70 miles.

Horse Power.	Size. B. & S.	Energy Loss.	Max. Reg.	Copper in pounds.
10,000	00	0.10 %	0.12 %	12,774
20,000	250 000 C M.	0.10 %	0.17 %	24,156
30 000	350,000 C. M.	0.11 "	0.22 "	33,816

60,000 volts, 70 to 100 miles.

10,000	2	0.09 %	0.095 %	6,384
20,000	00	0.09 %	0.11 %	12,774
30,000	0000	0.09 %	0.12 %	20,292

80,000 volts, 100 to 150 miles.

10,000	2	0.05 %	0.05 %	6,384
20,000	00	0.05 %	0.06 %	12,774
30,000	0000	0.05 %	0.07 %	20,292

Span.

We recommend a span of 160 feet, or 66 poles per mile, for duplicate line. Shorter spans are obviously less liable to break than long ones. Weight of sleet freezing on the wire and the wind pressures are smaller for shorter spans. Through agricultural tracts and thickly settled districts, where the falling of a wire would be of the greatest danger to life and property, especially ripe crops, it is advisable to use shorter spans, down to 120 feet, while in thinly settled areas, waste land or public domain, 200 feet will answer.

The surveyor who lays out the line may vary the span slightly at times, so that the poles shall come on the higher points, not in hollows.

At railroad and other line crossings the span must be the shortest possible, down to twenty feet.

Arrangement.

The general design of the pole and its trimmings is illustrated by exhibit B. The wires are arranged in the form of an equilateral triangle, which is at once a symmetrical and simple arrangement, advantageous both from an electrical and a mechanical standpoint. The mutual reactance and capacity effects are thus kept equal, so that there is an even balance in the electrical conditions as well as balance in mechanical strains. It is obvious that there is no symmetrical arrangement of three wires horizontally on cross arm, nor could suitable distance be provided without going to excess in length of cross arm.

Construction.

Poles—The poles should be winter cut Canadian red cedar. The standard size for forty thousand and sixty thousand volts should be forty feet long, and not less than eight inches in diameter at the top. For eighty thousand volts they should be forty-two feet long. All defects, such as large, loose or protruding knots, rotten hearts, excessive season checks, etc., should be excluded.

Winter cut timber is much preferable, even at a materially higher price. The sap is mostly in the ground when such poles are cut; consequently, they are not checked as badly as summer cut poles. Timber grown on a north slope is preferable, on account of its slower growth, and because it has a better taper. If possible, select poles the greatest per cent. of whose cross section is red or heart stock. Knotty poles last longer, though they are somewhat harder to handle, because there is more resin in the wood.

No pole should be accepted which is in wind more than four inches, or which is in wind more than one direction.

The pole is to be framed and roofed as shown on exhibit C. The mortise must be at right angles to the principal axis of the pole, and shall be neatly and cleanly cut, so that the cross arm shall be square with the pole when seated and wedged.

The sides of the mortise must fit the cross arm snugly, as wedges cannot be used on the side. The hole for the top pin is to be bored approximately in line with the axis of the pole.

The roof, pin hole and mortise are to have two coats of elastic bitumen paint. The butt of the pole to two feet above ground line shall have two coats of carbolineum, which should be applied hot.

Holes.

The holes for forty foot poles should be six feet deep in average ground. For each additional five feet of length in the pole the hole should be one foot deeper. On hillsides the depth must be measured from the lower side. One foot extra of depth should be allowed at angles. The holes should

be from four to six inches larger than the butt of the pole, to allow room for tamping.

Cross Arms.

We recommend for sixty thousand volts a cross arm four inches by six inches, by eight and one-half feet long. It is to be exact size when dry and surfaced. For forty thousand and eighty thousand volts, the cross arms should be 3 1-4 in. x 5 1-4 in. x 7 feet and 4 in. x 6 in. x 10 feet, respectively. They must be surfaced on all sides, roofed, and have two holes for insulator pins, as shown on exhibit C.

The material for these cross arms is to be selected clear, long leaf yellow pine, free from excessive gum, large or rotten knots, and imperfections generally. It is especially insisted upon that the cross arms shall be close and straight grained, so as to avoid danger of splitting out at the ends.

The cross arms should be treated with a mixture of elastic bitumen paint and creosote, in such a manner as to saturate the outer fibres with the preservative, and leave a heavy coating all over the arm.

Pins—The pin recommended for sixty thousand volts is 2 1-2 inches in diameter by 17 1-2 inches long, for cross arm pins, and 2 1-2 x 20 inches for pole pins. The general shape is shown on exhibit E. The design of the pin is, however, a matter largely depending on the kind of insulator used. The pins are held in place in the top of the pole and in the cross arm by small dowel pins, as shown on exhibit C.

The material for these pins should be selected black locust, straight grained, and free from knots. No split, splintered or rough pins should be used. The threads should be carefully cut.

The pins should be treated with paraffin. The operation consists of immersing the pins in paraffin oil at a temperature of 130 deg. F. The temperature is gradually raised in three hours to 240 deg. F., where it is held for six hours; then it is allowed to cool down again to 130 deg. F., when the pins are removed. The process requires considerable care in execution, but if properly done it is possible to drive the paraffin entirely through the fibre of the pin, and leave a smooth coating on the outside.

Dowel pins and wedges should be of oak, and should be dipped in elastic bitumen paint before being driven. The pin holes should be draw bored, 1-16 inch.

Insulators—The insulator recommended for sixty thousand volts is of the type having a large, nearly flat petticoat near the top, with a sleeve extending down the pin. The petticoat should not be less than 10 inches in diameter, and the sleeve should extend about the same distance down the pin. For forty thousand volts an insulator 6 inches in diameter, and with no sleeve, may be used. The weight and cost of insulators increases very rapidly with increase of voltage. Good forty thousand volt insulators can be had at 25 cents each; forty sixty thousand volts they would probably cost about 75 cents; for eighty thousand it is estimated they would cost from \$1.25 to \$1.50.

In General.

The construction should be such as to leave no places for moisture to collect, which is both dangerous to the insulators, and shortens the life of

the structure. All is to be made strong and solid, without the use of bolts or any metal to draw the metal together, but by good workmanship and the use of the above proposed framing.

Preservative and insulating paint is to be used on all exposed places, worked by tools.

Angles are to be turned in curves made up of short 10 foot spans, the angle between each span and the one preceding being not over 5 deg. For instance, if a 14 deg. angle is to be turned, it should be made with five poles and four short 10 foot spans, the deflection at each of the three intermediate poles being 4 deg. 40 min.

In places where there are likely to be excessive strains on pins and cross arms, as at entrances to switch and sub-stations, two or three poles should be set close together, having double cross arms, like the scheme shown by exhibit D, or the device illustrated by exhibit H may be used instead. This device has five pins and insulators on each of the three bars, two of which are supported at the ends of regular cross arms, and the other at the tops of the two poles. The structure is braced so as to be very rigid.

There should be no abrupt angles in a vertical direction. Where the profile of the ground has sharp rises and descents, a judicious use of different lengths of poles and proper selection of places to set them will avoid bad strains.

Switch Stations.

The junction points of the line must have buildings suitable for containing the automatic switches. These should be of fireproof construction, preferably of brick, or brick and steel, with iron roof.

A diagram of the connections showing the location of the switches is given on exhibit F.

Inlets and Outlets.

The means of conducting the high-tension wires into and out of the switch and sub-stations is a point requiring great care. An approved design is shown by exhibit G. The opening in the wall is 30 inches square, and is closed by panels of ceiling. Through the centre passes a 6x6 inch paraffined oak bushing, 4 feet long, carrying two concentric glass tubes, which in turn carry the conductor. This bushing must be entirely covered by a hood which will protect it from snow and rain, the wires entering from below. No metal should be used except in fastening the ends of the ceiling at the edge of the panel.

Switches.

The switches recommended for the junction points are of the oil immersion type, single pole, and are best erected in separate masonry compartments built along the ends of the junction house upon the floor level.

The cost of these switches would probably be about \$1,500 for the number required in each switch station.

Recommendations by

L. L. AND P. N. NUNN.

April 27, 1903.
8 N. F.

We estimate the cost of constructing a transmission for twenty thousand horse-power, at sixty thousand volts, of No. 00 B. & S. gauge copper, at 15 1-2 cents per pound (the present market price), as above outlined, not including cost of right of way and surveying, presuming nothing dutiable.

PER MILE OF DUPLICATE TRANSMISSION, \$3,600.00.

The maintenance of such a transmission, including replacing poles every fifteen years, not including fixed charges or interest on investment, should not exceed,

PER YEAR PER MILE OF DUPLICATE TRANSMISSION, \$125.00.

ORDER-IN-COUNCIL

APPROVED BY HIS HONOR THE LIEUTENANT-GOVERNOR THE
15TH DAY OF AUGUST, A.D. 1902.

Approving Agreement, Dated 28th June, 1902.

Referring to the Order-in-Council of the 23rd April, 1902, approving (among other agreements) of an Ancillary Agreement made between the Commissioners of the Queen Victoria Niagara Falls Park of the First Part, and the Ontario Power Company of Niagara Falls, of the Second Part, relative to terms of compensation to be paid for the removal of the Table Rock House, and upon the recommendation of the Honorable Mr. Harcourt, Attorney-General pro tempore, the Committee of Council advise that the accompanying agreement between the above parties, dated 28th June, 1902, extending the terms of the said Ancillary Agreement be approved of by Your Honor.

Certified,

(Sgd.) J. LONSDALE CAPREOL,

Asst. Clerk, Executive Council.

AGREEMENT

OF 28TH JUNE, 1902.

Amending Supplementary and Ancillary Agreements of 15th Aug. 1901.

AN AGREEMENT made the 28th day of June, 1902, between the Commissioners of the QUEEN VICTORIA NIAGARA FALLS PARK, acting herein on their own behalf and with the approval of the Government of the Province of Ontario and hereinafter called "THE COMMISSIONERS," of the first part, and THE ONTARIO POWER COMPANY OF NIAGARA FALLS, hereinafter called "THE COMPANY," of the second part.

THESE PRESENTS WITNESSETH that the terms of a certain ancillary agreement entered into by the parties hereto on the fifteenth day of August, 1901, relating to the acquisition by the Company of the whole or part of the building and premises in the Queen Victoria Niagara Falls Park, in view of the same being affected by and the land on which the same stands in whole or in part, by the construction of works in the said ancillary agreement mentioned, shall be extended, so that under any circumstances the Company, upon receiving notice from the Commissioners will proceed to acquire the interest of the tenants in their lease by arrangement, if practicable, or by any other means so as to fulfil and carry out the terms and intentions of paragraph 4 of said ancillary agreement.

The Company shall not be required to take proceedings to acquire the said property as aforesaid, until one month after such notice from the Commissioners to the Company shall have been given.

The object and intention of these presents being that by the Supplementary Agreement of the 15th August, 1901, between the parties aforesaid, the removal of the Table Rock House was requested or would be necessary in order to comply with the specifications of the said Supplementary Agreement for the construction of the open canal, and that by the Agreement entered into between the parties, bearing even date herewith, conduits or pipes are substituted, which substitution may render it less important to remove the Table Rock House, but, however that may be these presents testify as aforesaid that it shall be removed at the cost as between the Company and the Commissioners, as by the ancillary agreement provided.

This agreement shall require the approval of the Lieutenant-Governor-in-Council before taking effect.

IN WITNESS WHEREOF the Corporate Seal of the Commissioners has been hereunto affixed by their Chairman, who has also signed these presents in certification of due execution hereof by the Commis-

ioners and the Corporate Seal of the Company has been hereunto affixed by the President, who has also signed these presents in certification of due execution hereof by the Company and on the day and year aforesaid.

(Signed)

THE ONTARIO POWER COMPANY OF NIAGARA FALLS,

By J. J. Albright, President.

Robert C. Board, Secretary.

Witness :

James Wilson.

(Signed)

THE COMMISSIONERS OF QUEEN VICTORIA NIAG. FALLS PARK

By J. W. Langmuir, Chairman.

3 EDWARD VII.

Statutes of Ontario

CHAPTER 7

STATUTE LAW AMENDMENTS.

Assented to 12th June, 1903.

52. Section 36 of an Act passed in the sixty-second year ^{62 V. (2), c. 11,} of the Reign of Her late Majesty Queen Victoria in- _{s. 36, amended} titled AN ACT TO AMEND THE STATUTE LAW is amended by adding thereto the following words, "but no such agreement shall be operative unless and until ratified and confirmed by the Legislative Assembly."

See page 85.

COPY OF AN ORDER-IN-COUNCIL APPROVED BY HIS
HONOUR THE LIEUTENANT GOVERNOR, THE 24TH
DAY OF MARCH, A.D., 1903.

Upon the recommendation of the Honourable the Treasurer, the Committee of Council advise that the collection of the toll of fifty cents for each carriage, including all its occupants, for crossing bridges connecting the Islands with the Queen Victoria Niagara Falls Park as approved 26th April, 1888, by Your Honour be abrogated, such abrogation to take effect on and from the first day of April, 1903.

Certified,

(Sgd.) J. LONSDALE CAPREOL,

Asst. Clerk, Executive Council.

3 EDWARD VII.
Statutes of Ontario

CHAPTER 7.

STATUTE LAW AMENDMENTS.

Assented to 12th June, 1903.

59. THE ACT TO APPROVE AND CONFIRM AN AGREEMENT BETWEEN THE COMMISSIONERS FOR THE QUEEN VICTORIA NIAGARA FALLS PARK AND THE CANADIAN NIAGARA POWER COMPANY being Chapter 11 of the Acts passed in the second year of the Reign of His Majesty is amended by adding thereto the following section :

A-3 Edw. VII.,
c. 11 amended

3. The figures 1904 in sub-sections n, o and p, of paragraph 1 of the agreement of 15th July, 1899, which said agreement is hereinafter referred to in the Schedule of this Act, are by consent of the parties to the said agreement deemed to be 1905 which figures are declared to be intended to have been inserted in said sub-sections n, o and p, at the time when the said agreement was entered into.

Construction
of Agreement

3 EDWARD VII.

Statutes of Ontario

CHAPTER 6

AN ACT PROVIDING FOR THE CONSTRUCTION OF WORKS OF IMPROVEMENT ALONG THE BANK OF THE UPPER NIAGARA RIVER.

Assented to 12th June, 1903.,

WHEREAS it is expedient that the bank of the River Niagara between Fort Erie and Chippawa be protected from the wash of the River, and that the highway along the said bank and between said places be improved; and that provision be made for the construction of an electric railway, to be located so that the same shall be laid between the highway, according to the limits hereafter provided, and the river; and whereas agreements having such objects in view and heretofore made between the Commissioners of the Queen Victoria Niagara Falls Park having been wholly disregarded by the persons who had undertaken the performance of such works, it is desirable to secure, without delay, the preservation and continuation of highway facilities over and along the bank of the Niagara River, and also provide electric railway accommodation between the above points;

Preamble

Therefore His Majesty, by and with the advice and consent of the Legislative Assembly of Ontario, enacts as follows :—

1. The expression "The Commissioners," wherever it occurs herein, shall be understood not only to mean the Commissioners of the Queen Victoria Niagara Falls Park as representing the Government of the Province of Ontario, but also their successors and assigns and those who for the time being may be the commissioners of the Queen Victoria Niagara Falls Park, or any body, minister, or other official to whom the Legislature of Ontario may appoint or require to discharge the duties or exercise the powers of the commissioners.

"Commissioners," meaning of

2. (1) The expression "The Company," wherever it occurs herein, shall be understood to mean any company incorporated or to be incorporated by the Legislature of the Province

"The Company," meaning of.

Rev. Stat. c.
209

of Ontario or by this Act, and having no other existence or powers, except by virtue of the said Legislature of Ontario, or any association of persons not less than five, who shall subscribe capital stock to the formation of a body politic or corporate, in pursuance of the provisions of section 52 of THE ELECTRIC RAILWAY ACT, to be known as such name as the Lieutenant-Governor in Council may approve, or as may be embodied in such agreement or agreements for the construction and operation of the said railway, as herein provided ; and the provisions of any Order in Council in that behalf ; as to incorporation and powers to be exercised in pursuance of such agreement or agreements, shall have effect as if they had been enacted by the Legislature of the Province of Ontario.

"The Railway," meaning of.

(2). The expression "the railway" wherever it occurs herein shall be understood to mean a railway to be constructed, run and operated by electric power and no different or other power, and to be constructed and laid as herein provided.

Powers of Commissioners as to making certain agreements

3. The Commissioners of the Queen Victoria Niagara Falls Park, with the approval of the Lieutenant-Governor in Council, may enter into an agreement or agreements with any company as hereinbefore defined :

(a). To improve and maintain the bank of the Niagara River so that the same shall be protected against the wash of the river :

(b). And to preserve, improve and continue highway facilities between the Village of Fort Erie and the Village of Chippawa :

(c). And to grant to the Company, by way of license for the term of twenty-one years and renewable for one further period of twenty-one years on the request of the Company, as may be agreed upon, or as hereinafter provided and for certain considerations, the right to construct and operate a first class Electric Railway, with double tracks along the river bank, or upon some part of the river bank on which the allowance for road along the river is laid, in whole or in part, from a point at or near Queen Street in the Village of Fort Erie, to a point in the Township of Willoughby within or near the Village of Chippawa, or in sections between the said points.

Railway excepted from Dominion Acts

4. The said Electric Railway as so constructed is declared as passing over the property of the Province of Ontario described in THE RAILWAY ACT OF CANADA, chapter 29 of the Statutes of 1888, Section 6 A. 2, lying upon or along the Niagara River and known as the Chain Reserve.

Construction of railway in sections by different companies

5. In the event of the Commissioners granting the right to construct and operate the line of Electric Railway, between Fort Erie and Chippawa in sections, or the right to

construct and improve the highway as herein specified in sections, as part of the consideration of such grant, so much of the provision herein relating to "the Company" as described by Section 2 of this Act, as may be required and necessary to description and qualification or the formation of a Company and the exercise of powers by any such Company as therein described shall be applicable to any grantee of such rights to any section; and the provisions of this Act shall apply equally and in common to any such grantees in their corporate capacity, as thereby provided for the creation of a company.

6. The construction of the Railway, and its operation, and the improving, grading and forming of the highway, including the acquisition of land required for the construction and location of the Railway or of the highway as herein provided shall be in accordance with the provisos, conditions, agreements and recitals in this Act and the schedules thereto contained, and, such further or other provisions as the Commissioners, under the approval of the Lieutenant-Governor in Council may deem expedient or to be in the public interest to be entered into and made.

7. The rental to be paid to the Commissioners for the rights and privileges hereby granted for the period of twenty-one years, shall be the subject of special agreement to be embodied in any agreement or agreements entered into with the Lessee or Lessees under the provisions of this Act.

8. The several clauses of THE ELECTRIC RAILWAY ACT and of every Act in amendment thereof shall be incorporated with and be deemed to be part of this Act, except as hereinafter excepted, and shall apply to the Company and to the Railway to be constructed by them, except so far only as they may be inconsistent with the express enactments hereof; and the expression "this Act" when used herein shall be understood to include the clauses as hereby limited of THE ELECTRIC RAILWAY ACT, and of every Act in amendment thereof so incorporated with this Act; the Company shall not be affected by any provisions in THE ELECTRIC RAILWAY ACT contained, which may be at any time repealed, or be declared to be without the powers of the Legislature of Ontario, and the powers in section 11 shall extend to enable the Company or the Commissioners acquiring land required to widen the highway, or for other purposes of improvement thereof, as by paragraph 4 of the schedule of this Act is provided—but free from the restrictions in sub-section 6 of said section.

9. The following sections of THE ELECTRIC RAILWAY ACT are declared not to apply to this Act, nor affect the rights, powers and duties of the Company, in respect of the matters by the said agreement or agreements agreed to be done, observed or performed:

Section 9, sub-section 1, c., so much as but for this Act would apply to the location of the line, as provided by section 2 hereof :

Section 9, sub-section 1, k., relating to the acquisition of lands for parks.

Sections 18, 36, 37, 42

63 V. c. 15 repealed in part.

10. So much of the Act passed by the Legislature of Ontario, in the sixty-third year of the reign of Her late Majesty Queen Victoria, and chaptered 15, as relates to the approval, ratification, and confirmation of the agreement between the Commissioners for the Queen Victoria Niagara Falls Park and the Fort Erie Ferry Railway Company, a copy of which is contained in the schedule to said Act is hereby repealed : and the said agreement is hereby declared to be null and void.

Filing plans under 63 V. c. 16, declared of no effect.

11. Plans of the location of the highway and of the profile thereof, or plans and book of reference of the Railway, which have been or may have been submitted for approval under section 35 of the said agreement, and any approval of the Lieutenant-Governor in Council of the construction of the branch or extension of the railway from the Village of Fort Erie to the Village of Chippawa, which may have been obtained in pursuance of the Act of 1897 respecting the Fort Erie Railway Company, are hereby declared to be void and of no effect.

57 V. c. 13, s. s. 2, 3, 4 repealed

12. Sections 2, 3 and 4 of the Act passed by the Legislature of Ontario, in the fifty-seventh year of the reign of Her late Majesty Queen Victoria and chaptered 13 are hereby repealed, and the agreement dated seventh May, 1894, made in pursuance of said sections, is hereby declared to be void and of no effect.

Rights of access for commercial works preserved.

13. In the event of the Government of Ontario at any time granting access over the River Bank, or the highway thereon, or the Railway to be built under the agreement to be made under this Act, to the water lots along the Bank, foreshores, or bed of the Niagara River for commercial works or purposes, such grant shall be subject to such compensation to be paid to the Commissioners and the Company, as the Lieutenant-Governor in Council may deem reasonable, and the construction by the applicants or grantees of such access, at their cost, of such works of restoration and maintenance thereof as the Lieutenant-Governor in Council shall deem to be adequate to continue and preserve the working of the Railway and the free use of the highway or such other highway construction in substitution thereof to all persons using the same ; the compensation to be paid shall be in lieu of indemnity to the Company for expenditure incurred, but not for any allowance for the franchise of railway traffic or of access to the river.

14. Any expenditure which the Commissioners may have made or incurred, or may find necessary to make towards all or any of the following purposes, viz :—
Commissioners are authorized to do certain works for protection of park

For the immediate preservation of any part or parts of the bank of the Niagara River, against erosion, wash or other action by nature affecting, or which may affect, the same.

For the immediate repair or construction of any part or parts of the highway or for widening the same,

For the purchase of such land as may be necessary, or the acquisition by expropriation, for any of the foregoing purposes,

Such expenditures may be required to be repaid by the terms or considerations of the said agreements.

15. The construction, widening and grading of the highway, together with the acquisition of the lands necessary for widening shall be proceeded with reasonable despatch and the completion of the highway, in accordance with the profile and specifications in this Act contained, shall be fully done by a day in the agreement or agreements, to be named, and the Railway shall be completed and fit for public traffic, on or before four years from the date of the agreement, and if the said works are not completed by the parties, by agreement having undertaken to do and perform the same within the times respectively required to be done and completed, then the powers in the agreement provided and granted shall cease and be null and void, and the Lieutenant-Governor in Council may declare the said agreement, the licenses, powers and authorities so granted and every one of them to be forfeited and void and thenceforth after such declaration the same shall cease and determine and be utterly void and of no effect whatever.
Time for completion of works

16. (1) This Act is hereby declared to be the special Act, in so far as such definition or expression is required by THE ELECTRIC RAILWAY ACT.
Act declared to be "a special act."

(2) The Company shall have the capital in stock of five hundred thousand dollars, and its head office, until otherwise ordered by the directors, shall be at the Town of Niagara Falls.
Capital stock

(3) The number of Directors shall be five.

17. The Company shall not agree, suffer or permit the Railway to join or unite, or be joined or united with any other railway or bridge, in any case in which it is proposed that the Railway of the Company shall join or unite with or be joined or united with a railway or bridge, under the Legislative control of Canada ; and the Company shall not agree, suffer or permit the cars and carriages of the Company to
Company not to amalgamate, etc., with Dominion companies

run over any other railway or bridge under the Legislative control of Canada or over any other railway or bridge which shall be joined or united with a railway or bridge under the Legislative control of Canada, or agree, suffer or permit the cars or carriages of such last mentioned other railways or bridges, or either of them, to run over the railway of the Company.

Forfeiture for
contravention
of section 17

18. And if the Company shall join or unite with any railway or bridge under the Legislative control of Canada, or with any other railway or bridge which shall join or unite or be joined or united with a railway or bridge under the Legislative control of Canada, or if the Company shall agree, suffer or permit the cars and carriages of the Company to run over any other railway or bridge under the Legislative control of Canada, or over any other railway or bridge which shall be joined or united with any other railway or bridge under the Legislative control of Canada; or shall agree, suffer or permit the cars and carriages of the other railways, or bridges last mentioned, under the Legislative control of Canada, of either of them to run over the railway of the Company, the Lieutenant-Governor in Council may in either or any of the said cases then and from thenceforth declare this agreement, the liberties, licenses, powers and authorities hereby and thereby granted and every one of them to be forfeited, and thenceforth the same shall cease and determine and be utterly void and of no effect whatever; and of such joining or union, or of such running of cars or carriages, in fact or any of the foregoing cases, and whether or not the right to declare any previous forfeiture in any such cases had or had not arisen, and when or how the same or any acts amounting to the right to exercise such forfeiture should be acted on, the Lieutenant-Governor in Council shall decide and determine, and such decision and determination shall be final.

Agreements to
include specifications in
Schedule

19. The agreement or agreements hereinbefore authorized to be made by the Commissioners, in case any part of the works hereby described, shall relate to the construction or operation thereof in sections, shall embrace respectively the provisions contained in the schedule hereto attached, without any omission or variation of such provisions, which said agreement shall be read as part of this Act.

Agreements
to be approved
by Order-in-
Council

20. The agreement, or agreements, herein authorized to be made by the Commissioners of the Queen Victoria Niagara Falls Park shall have no force or effect until approved by the Lieutenant-Governor in Council.

SCHEDULE.

1. The railway shall be laid on the east, or river side, of the common way for public use, according to the limits hereafter provided, on such line as the Commissioner of Public

Works for the Province of Ontario shall determine; and for that purpose shall be allowed 26 feet in width thereof, subject to the uses hereinafter specified, and measuring from the tracks of the railway on the west as the location of the railway is above defined. The space for unobstructed highway traffic shall not at any time during the continuance and existence of this agreement, or at any point, be less than 40 feet in width west of the west berm of the railway, except where reserved in the discretion of Commissioner of Public Works as hereinafter provided, so that the common and public use for highways may pass freely over, and along the highway as heretofore, between the farms and the private lands on the one hand, and the railway on the other, subject to rights of passing over the railway, as by law, or as hereinafter specified. The location of the line shall be subject to constructing such works of protection against the action of the current of the River Niagara as the Commissioner of Public Works may deem to be expedient or necessary.

2. The said highway within the width of 40 feet, shall be graded, shaped and rolled to a hard finish for the entire distance between the point of beginning of the railway at Fort Erie to Chippawa as and for a turnpike road, according to the cross-section shown herewith, providing sufficient cross-drainage of a permanent character, and providing all necessary bridges of the full width of the road as in the cross-section shown, namely, 23 feet width in clear, with a six foot wide sidewalk on said bridges in addition:

3. Whatever land may be required to secure such width of 40 feet at any time during the continuance and existence of this agreement west of the western berm of the railway, excepting the special provision between the point of commencement in the Village of Fort Erie to the northern boundary of the Village of Bridgeburg shall, if the same form any part of the land of proprietors (or other than of the commissioners) be procured by the company, by or under any powers which are exercisable under this Act. Between the point of commencement and the northern boundary of the Village of Bridgeburg, the Company shall not be required to expropriate land for widening the highway to the full width of 40 feet as hereinbefore stipulated, but the railway tracks shall be so located as to leave a clear width of roadway for vehicular traffic of at least 23 feet and a six foot sidewalk to the west thereof.

4. Any land which may be required in order to make and maintain the highway of the full width above specified and defined, or wherever any land is required for such highway or railway, other than the grant by the Commissioners by these presents made, such land shall by such requirements become dedicated for use for highway purposes, or for railway purposes, as the case may be, in accordance with these presents, but the title thereof, if not so already, shall be made to the

Commissioners as and for the public uses of the Province, but subject to the highway uses :

Fences, including gates, shall be erected by the Company along the division or boundary line of the highway and the land of the proprietor, where land shall have taken from the proprietor for the purpose of widening highway, within two months from the time of such taking, unless the proprietor shall by writing extend such time, such fences shall be the same style as are upon and exist at the time of such taking, or the same fences shall be moved and re-erected, if such removal, including the gates, can be removed satisfactorily, and made not less good than previously to the taking as aforesaid.

5. The highway as now located or as may be placed on lands acquired for its improvement, including the part occupied by the railway notwithstanding where or in whom the title to the soil and freehold may be vested, shall be under no control other than that of the municipalities within which its several parts are situate, in accordance with the provisions of THE MUNICIPAL ACT, except as by these presents varied.

6. Wherever there is or may be a public highway across the highway as by this Act located to the water's edge of the Niagara River, the same shall be kept open, maintained and repaired by the Company during the existence of this agreement.

7. The railway tracks shall be subject to the free passage over the same at such highway crossings and to the waters of the river for domestic purposes or watering stock, where such uses shall not trespass upon any private right ; and all persons using the highway upon which the railway is laid, or adjacent, shall be at liberty to travel upon any portion of the highway occupied by the railway, provided that the running of the railway carriages or other conveyance of the Company are not unduly impeded or interfered with in such running ; and in all cases carriages or other vehicle on the railway track shall immediately, by leaving the track, give place to the railway carriages or other conveyances of the Company.

8. The rights of the Company hereby granted or conferred, shall be subject to the exercise by the Government, of grants of passing over or under the railway, and granting access to the lands or water lots of Ontario along the bank, foreshores, or bed of the Niagara River, for any purposes whatever ; the rights of the Company hereby granted or conferred shall also be subject to any grants, public rights, or private rights which may have been heretofore granted by the Dominion or any Provincial Government.

9. The said Railway is to be four feet eight and a half inches gauge, and is to be laid with steel rails of not less than 65 pounds to the lineal yard, fastened with fish plates, the formation, ballast, bridges and all other structures to be approved by the Commissioner of Public Works for the Province of Ontario.

10. No buildings or sheds shall be erected upon the river bank without special permission of the Commissioners and no work shall be carried on thereon that will in any way disfigure the river bank, of which works, whether disfiguring or not, the Commissioners are to be sole judges.

11. The river bank shall not be encroached upon, nor the line on which the Railway shall be located, as determined by the Commissioner of Public Works, for the purpose of constructing or building the Railway or any part thereof until the formation and construction of the highway of forty feet in width, in accordance with the profile thereof, and the bridges of such highway shall have been completed to the satisfaction of the Commissioner of Public Works and ready for public use, and the acquisition of the land, which may have to be acquired for the width provided under this agreement, shall have been validly acquired and vested in the Commissioners as herein provided.

12. The construction of the highway or any work thereunto appertaining, shall not be commenced until plans of the location of such highway, and the profile thereof, and until the location of the Railway and the profile thereof, and the plans and specifications of all the intended works and bridges thereunto appertaining shall have obtained the approval of the Commissioner of Public Works.

But this restriction shall not apply to the construction of any works connected with the highway which the Commissioners may deem necessary to be proceeded with, at any time before the construction of any such works, shall have been committed to others under the powers of this Act.

13. The approval of the Commissioner of Public Works as last aforesaid is not to affect the observance of all the provisions of the laws of Ontario, in so far as the same are applicable by virtue of any of the Acts of the Legislature of Ontario affecting the said railway.

14. The Commissioner of Public Works, with a view to enabling the building of the Railway being expedited, may define portions of the Railway (the location and specification whereof having been duly approved) the construction of which may be commenced before the whole of the highway has been completed, provided that contiguous to such defined portions of the railway, the land, if any required for widening the highway has been obtained, and that the public use of the highway contiguous to such defined portion of the rail-

672
way shall not be obstructed or impaired.

15. The railway shall be constructed, operated or worked upon its located line and its traffic shall be so arranged as to impede or incommode the public use of any street, highway, or public place as little as possible, and so as not to be a nuisance thereto, nor to interfere with the free access to any house or other building erected in the vicinity of the same, nor to endanger the same

16. The railway tracks are to be laid as hereinbefore provided and to such grade as will conform to the level of the highway. If at any point the Company should desire to elevate or depress the tracks above or below the general highway level, and the Commissioners deem the same to be proper, the slope to be given the side bank separating the track from the highway shall not be less than two and one half horizontal to one vertical, and the slopes neatly trimmed and sown in grass. The Company shall protect the shore of the River at all points where the eroding action of the water may in any way endanger the stability of the railway; the method of such protective works to be approved of by the Commissioners before being carried out.

PROVISIONS RELATING TO RENT AND RENEWAL OF LEASE.

17. The expression "The Company" shall apply to any Corporation grantees of the right to operate the railway between Fort Erie and Chippawa, or of any portion thereof.

18. The rent shall be paid, although the Company may not by virtue of this agreement be able to exercise the rights and powers to construct and operate the said railway, it being understood that the Commissioners do not guarantee the rights, interests and franchises hereby conveyed to the Company, and do not covenant for the quiet enjoyment thereof, except as against the acts of the Commissioners and their successors, and any one claiming by, through or under them.

19. At the end of the first term of twenty-one years the said term shall be renewable on the request by the Company for a further period of twenty-one years as may be agreed upon, or as hereinafter provided.

20. If at the end of the said first term or period of twenty-one years the parties hereto cannot agree as to the amount for rental for each year of such further period, such rental shall be ascertained by three arbitrators or a majority of them, one of whom shall be named by the Commissioners, another by the Company (the parties hereto of the second part) and the third by the Chief Justice or senior presiding Judge of the Provincial Court of ultimate appellate jurisdic-

tion for Ontario. The proceedings of and before such arbitrators shall be subject to the provisions of law relating to "References by consent out of Court" contained in the revised Statutes of Ontario, 1897, chapter 62, respecting arbitrations and references. Either party to such arbitration may appeal in accordance with the provisions of the aforesaid Revised Statute respecting arbitration and references.

21. If the Company desire to renew for such further period of twenty-one years, notice of such desire to renew shall be given by the Company to the Commissioners in writing at least twelve months before the expiration of the first term or period of twenty-one years.

22. If at the end of the first period of twenty-one years, the Company decline or are unwilling to renew, or at the end of the second period of twenty-one years, if the Company continue to hold for such second period, the Company shall be duly compensated by the Commissioners for their railway, machinery and other works (between the points over which the same is licensed to be constructed by virtue of this agreement and being in and upon the lands under this agreement licensed), including the equipment, but not in respect of any franchises for holding or operating the same, such compensation to be fixed by mutual agreement, or in case of difference by arbitration, as in paragraph 20 of this schedule, but the failure before the expiration of any such term to fix such compensation in manner aforesaid, or to pay before such expiration, the amount of compensation so fixed, shall not entitle the Company to retain possession meanwhile of the said railway, equipment, machinery and works, by the agreement to be constructed or operated, but the same shall nevertheless and notwithstanding that the Commissioners may have taken possession thereof, remain subject to such liens and charges save as to possession as aforesaid, as may exist in favour of bond-holders or debenture holders of the Company, and the Company shall retain a lien or charge thereon, save as to possession as aforesaid, for compensation of their railway equipment, machinery and works to be agreed upon as aforesaid or so to be awarded to them, provided however, that all such liens and charges shall not exceed the amount that may be agreed upon or may be awarded for such compensation as aforesaid.

23. The compensation to be made to the Company in respect of the matters contained in the next preceding paragraph of this agreement, according to its provisions under the contingencies therein specified, shall include the prices paid to the proprietors of the lands to be acquired to build the railway, and to restore or widen the highway, which the Company will have to acquire, and which the Commissioners do not now hold, and also the amount actually paid for grading and making the highway and its bridges in accordance with the provisions and specifications contained in para-

286
graph 2 of this schedule.

24. The particulars of the prices paid for land, and the amount paid for making the highway and its bridges shall be furnished to the Commissioners within six months after the same shall have been paid by the Company.

For all railway equipment, machinery and works provided, and the amount expended during the continuance of this agreement and its term of extension, if extended under its provisions and which has been expended in each year, the Company shall annually furnish to the Commissioners particulars of such expenditure, and if not furnished within one year after expenditure, such expenditure shall not form an item or outlay for which the Company at the expiration of this agreement or the extension thereunder shall be compensated, but no interest on any of the foregoing expenditures or outlays shall be claimable by the Company or recoverable as part of the compensation to be paid or allowed, and the valuation of the railway and works done, and equipment, shall be upon the condition of such railway and works and their actual value at the expiration of this agreement.

25. The rents agreed to be paid are hereby declared to be and shall be the first and preferential charge upon the railway and works, and the Company shall not create any lien, charge or encumbrance upon the railway or works, or any of them by bond, debenture, mortgage or otherwise, nor suffer a mechanic's lien to be created, which will interfere with or prevent the Commissioner from procuring payment of the rent hereby reserved, or any part thereof, and no simple contract creditor or other creditor of the Company is to have any claim against the railway or works, or any part thereof, in priority to the claim of the Commissioners for rent.

26. Provided always that if any of the rent, whether payable as agreed for the first term or in respect of renewal term in paragraph 20 of this schedule, or by paragraphs subsequent and supplementary thereto, shall be in arrears for three months, whether legally demanded or not, the Commissioners, or if not then an existing corporation, the Government of the Province of Ontario may enter into and upon the railway or any part thereof in the name of the whole, and thereupon this agreement shall terminate and the remainder of the term then current shall terminate as well as any renewal thereof, which under this agreement may be claimed.

27. In respect of all rights and authorities which the Commissioners by this agreement have conferred or have agreed to confer upon the Company to exercise in and about the execution of the works to be constructed, and operating and working the same, or of all other matters of any kind whatever herein agreed upon, the Company will indemnify the Commissioners in respect of the exercise of said rights by the

Company, or of any acts done by the Company in pursuance of any of the matters herein contained, and will hold the Commissioners free from any liability to any person or persons whomsoever.

28. And provided that should the title of the Commissioners, or of the Crown, to any portion or portions of the lands hereby licensed to be occupied by the Company be found to be defective, neither the Company nor its successors or assigns shall have any claim in respect thereof by virtue of anything contained in these presents.

EIGHTEENTH ANNUAL REPORT

OF THE

Commissioners for the

Queen Victoria Niagara Falls Park

Ontario

For the Year 1903

PRINTED BY ORDER OF
THE LEGISLATIVE ASSEMBLY OF ONTARIO



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Toronto, February 3rd, 1904.

The Hon. J. R. Stratton, M.P.P., Provincial Secretary, Province of Ontario, Parliament Building, Toronto.

Sir,—I have the honor to transmit herewith for presentation to the Legislature of Ontario the Eighteenth Annual Report of the Commissioners for the Queen Victoria Niagara Falls Park, together with the appendices thereunto attached.

I have the honor to be, sir,

Your obedient servant,

J. W. LANGMUIR,

Chairman.

BOARD OF PARK COMMISSIONERS

John W. Langmuir, Chairman.

George H. Wilkes.

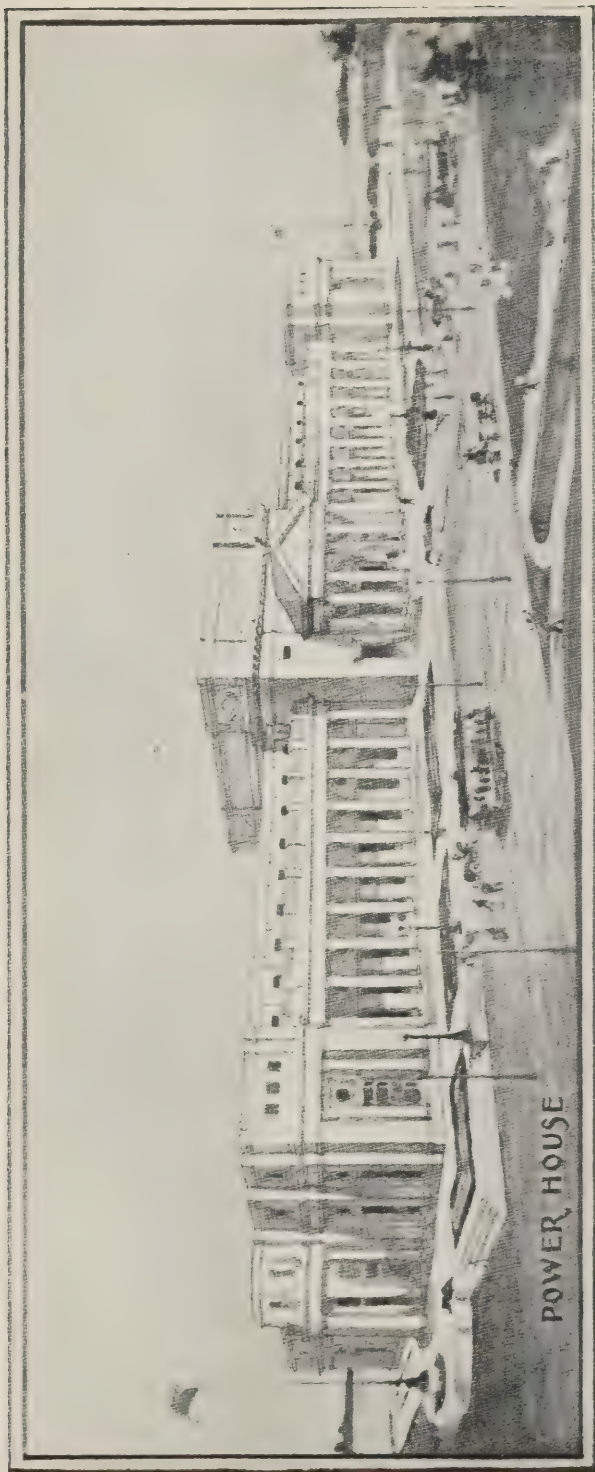
James Bampffield.

Archibald W. Campbell.

Robert Jaffray.

Superintendent, James Wilson.

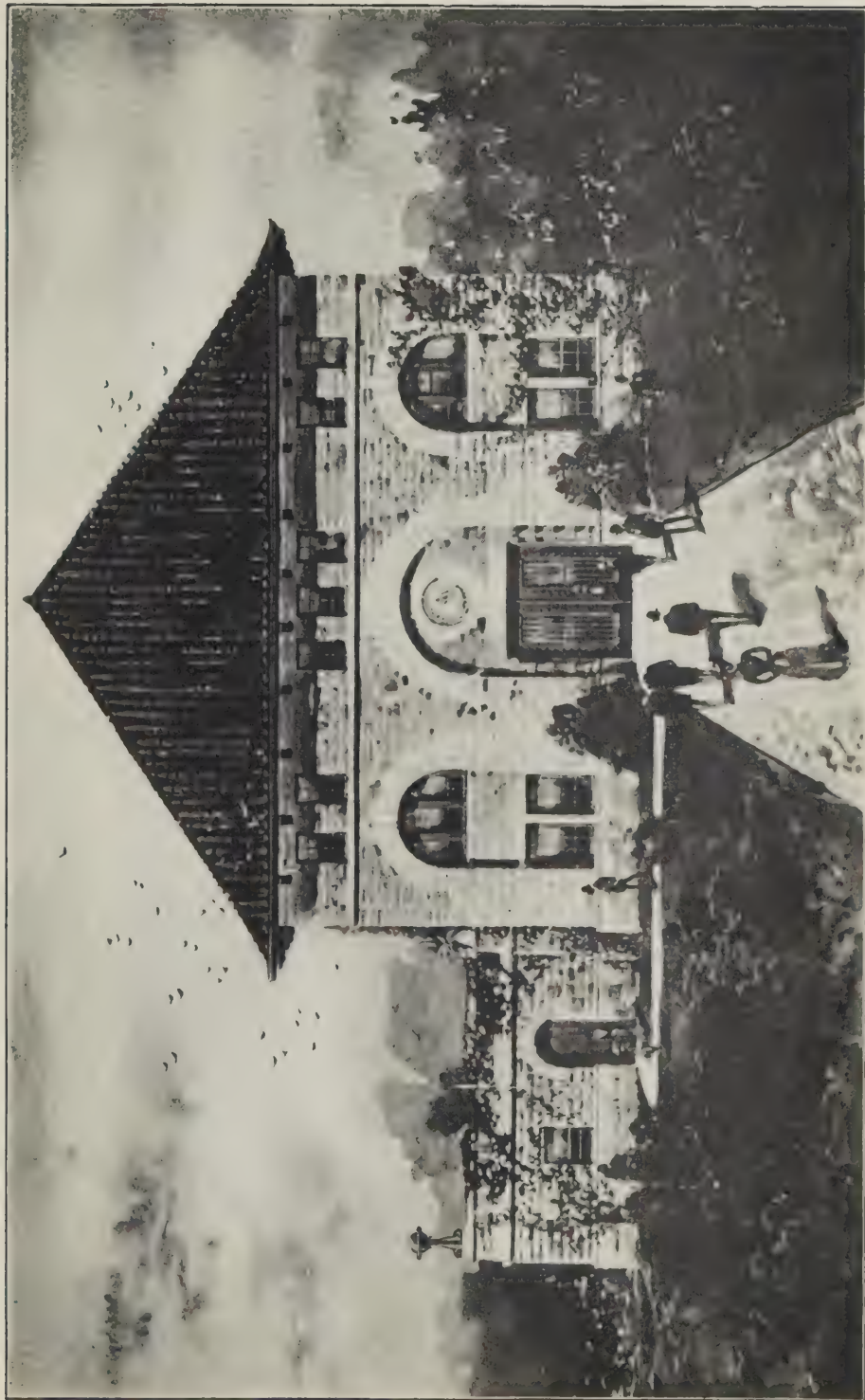
Chief Gardener, Roderic Cameron.



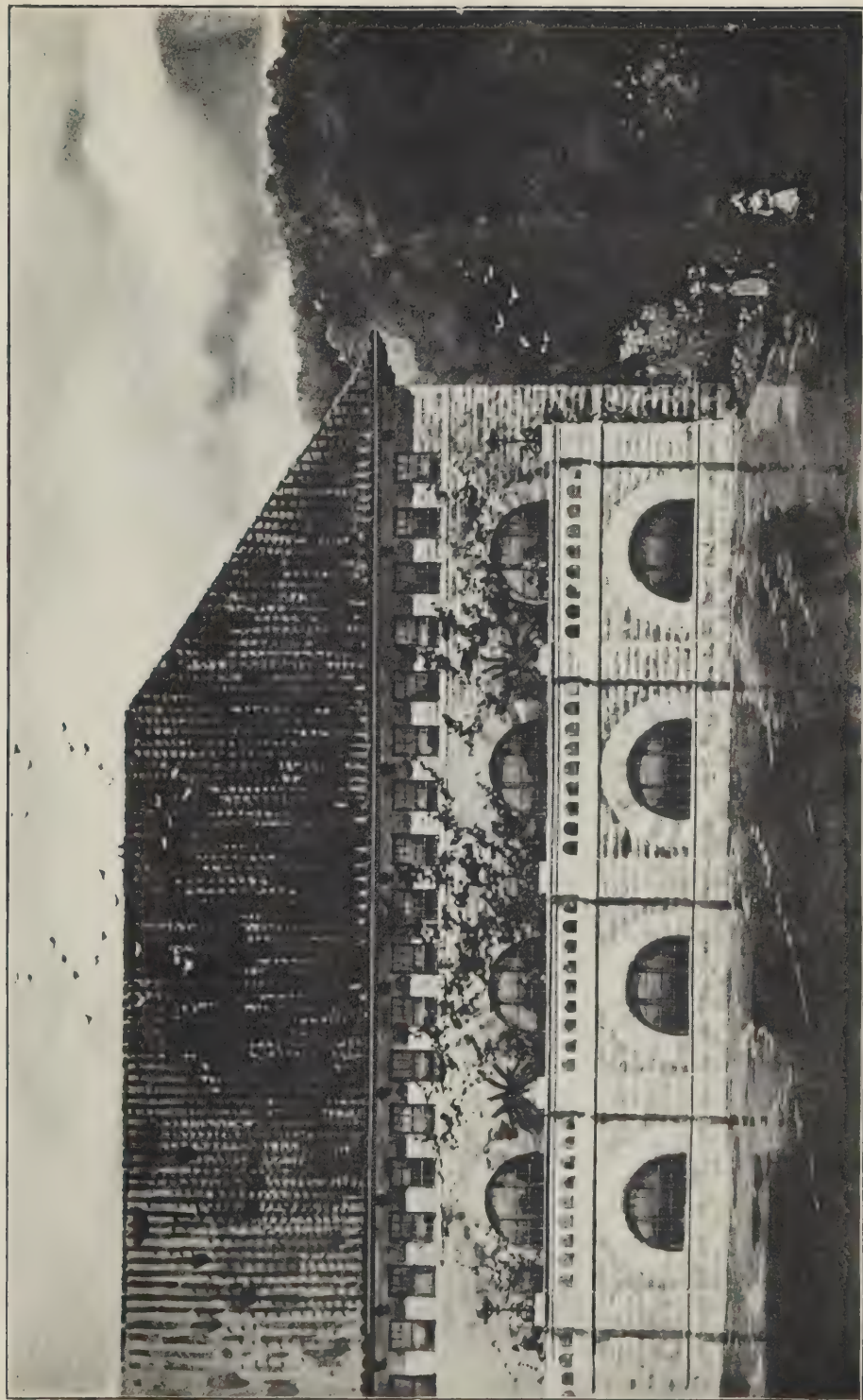
Approved design for the Power House of the Electrical Development Co'y in the Queen Victoria Niagara Falls Park.



Office Building for the Electrical Development Co., of Ontario, Limited, Queen Victoria Niagara Falls Park



End view of Power House now being erected in the Queen Victoria Niagara Falls Park for the Canadian Niagara Power Co'y.



Side view of Power House now being erected in Queen Victoria Niagara Falls Park for the Canadian Niagara Power Co'y.

Hotelery Building, Queen Victoria Niagara Falls Park.



EIGHTEENTH ANNUAL REPORT OF THE COMMISSIONERS FOR THE QUEEN VICTORIA NIAGARA FALLS PARK.

To the Honorable W. Mortimer Clark, K.C., Lieutenant-Governor of the Province of Ontario :

May it please your Honor.

The Commissioners of the Queen Victoria Niagara Falls Park beg to submit their Eighteenth Annual Report (being for the year 1903), to which is appended the usual statement of receipts and expenditures, the Report of the Park Superintendent, and the text of several agreements which have been entered into during the year.

Before entering upon a record of their operations for the past season, the Commissioners desire to express their great regret at the loss sustained by their fellow-Commissioners of the New York State Reservation by the death during the year of the Hon. Thos. V. Welch, the Superintendent of the Reservation, and a few days later of the Hon. Andrew H. Green, the President of the Board, who died by the hands of an assassin. Both Mr. Green and Mr. Welch took a very active interest in promoting the establishment of the State Reservation, and both continued in their respective official capacities of President and Superintendent until their death took place during the year.

The several companies holding franchises for the development of water power above the Falls for commercial purposes have been actively engaged during the year in carrying on the very extensive operations required in their respective undertakings, and a brief reference to the distinctive features of each of the companies may be of interest.

Canadian Niagara Power Company.

The Canadian Niagara Power Company, which was the first to begin operations in the Park, has prosecuted with great energy its various works, with a view to the completion of the first instalment of its output within the time limit fixed by its agreement with the Commissioners. In their last Annual Report the Commissioners referred to the important decision arrived at by this company to complete the whole, instead of a portion only, of the various works connected with their intake, forebay, wheelpit, etc., etc., so as to provide water connections for the full ultimate capacity which the agreement with the company authorizes, and for which the plant had been designed, namely, 100,000 horse power, and further to actually install electrical machinery for an initial output of 50,000 electrical horse power, instead of 20,000, which the agreement requires to be ready for sale by the 1st July, 1904.

As this decision of the company would enable the earlier completion of the permanent grading and planting of the grounds in the vicinity of the works, as well as securing the very substantial advantage to the Province and users of power of providing for an additional 30,000 electrical horse power over what is called for by the agreement, the action of the company met with the cordial approval of the Commissioners. In addition to these advantages, the company will be in a position, as soon as the demand for power warrants it, to rapidly increase the output of the works up to the maximum development of 100,000 horse power by the addition of plant and machinery, and without again disturbing the surface of the park.

Seeing, however, that this greatly increased development over what is called for by the agreement entailed a vast amount of additional work upon the company, the early completion of which was so much to the advantage of the Park and the Province, the Commissioners considered the request of the Company for a six months' extension of the time limit fixed by the agreement (namely, from 1st July, 1904, to 1st January, 1905), for the first output of power, to be reasonable. The Commissioners have recommended the Government to grant the extension desired and to obtain such legislative approval therefor as may be required by the Statutes.

A more extended reference to the various works carried on by the Company during the year will be found in the Report of the Superintendent of the Park, hereto appended.

The Ontario Power Company.

The Ontario Power Company has made good progress in its extensive works. At the southern extremity of the Park the cofferdam, referred to in last year's Report, was found, on the unwatering of the river bed, to be insufficient for the purpose, and authority to construct a second cofferdam further up the stream was granted. This work has been completed, and a very large area of the river bed has been laid bare. Early in the season work was begun on the excavations for the forebay and water wall, and a large quantity of rock has been taken out, which is being utilized for the extensions of the Dufferin Islands. A long reach of the water wall, or gathering dam, which is to enclose the forebay on the river side has been completed. This work is of concrete, and appears to be of the most substantial character.

At the site of the gate house, where the excavations are deep, good progress has been made, and the long and deep cutting required for the pipe line to carry the water supply from the forebay at the Dufferin Islands under the surface of the Park to the Company's power house below the Falls has been practically completed, and some 500 feet in length of the great steel tube, 18 feet in diameter, have been put in place. There are to be three of these pipes ultimately, but as each is to carry water sufficient for the creation of about 50,000 electrical horse power, only one is to be put in at present.

At the site of the power house on the talus below the Falls, a great amount of material has been excavated, and a new wagon road leading to it has been constructed from the highway leading up from the Maid of the Mist landing.

Upon a close examination of the cliffs overlooking the power house site, it was found that the exposed rock was in a more or less dangerous condition, and the Company made application to the Commissioner for permission to clean off the surface rock, removing all loose material, and to construct a water-tight revetment wall upon the top edge of the escarpment, so as to prevent the surface water running down the face of the cliffs. This work was authorized and has been completed, with the exception of the ornamental parapet wall, and the cement sidewalk adjoining it.

Early in the year the Company requested a modification of the limits fixed by the agreement for the northerly extremity of the Company's works. As this change would ultimately necessitate the demolition of the building, originally used as a museum, but recently occupied in part as a restaurant and a shelter for the public, the removal of which structure the Commissioners had long desired, the request of the Company was favorably considered, and after extended negotiations an agreement was arrived at under which a slight extension of the pipe lines and also of the power house under the bank was authorized upon the following terms :

(a) The payment of the sum of \$20,000 towards the cost of erecting a new refectory and shelter building, to take the place of the old museum.

(b) The construction of temporary quarters for the lessees of the Commissioners until the new building was prepared.

(c) The taking down of the museum building and sorting the materials.

(d) The sinking of a shaft through the rock at the Table Rock House, and the construction of an electric elevator from the top story of the building to a point 80 feet below the surface of the ground, and the driving of a new scenic tunnel from the foot of the shaft to a point behind the heavy falling water of the Horseshoe Falls.

The text of this agreement will be found in the appendix to this Report.

Electrical Development Company of Ontario.

The franchise granted to Messrs. Wm. Mackenzie, H. M. Pellatt and Frederic Nicholls for a water power development in the Park, to which full reference was made in last year's Report, was subsequently transferred to a chartered company, in accordance with the terms of the agreement, under the title of The Electrical Development Company of Ontario, Limited. Preparatory to beginning its works of construction in the Park, this Company erected, with the approval of the Commissioners, a most substantial and ornate office building to provide quarters for the engineering and clerical staff. This building has been much admired for its attractive and serviceable appearance, and doubtless when the new power house is built and it is no longer required by the company, it will be found useful for Park purposes. As the Company selected the vicinity of Tempest Point for its power house and wheel pit location, and the wildest part of the rapids for the intake and gathering works, the construction of a cofferdam to unwater the riverbed at this point was immediately begun. This work has proved one of great magnitude, owing to the immense volume and rapid flow of the water, and the unevenness of the bed of the stream, particularly at the cascades. Notwithstanding these difficulties, this work has been successfully carried out, and is now nearly completed. Under the protection of this cofferdam, a secondary cofferdam has been constructed around the area to be excavated for the power house, and a considerable portion of the riverbed has been stripped down to the solid rock, and made ready for the sinking of the wheelpit.

As the outflow tunnel of this Company is wholly under the bed of the river, direct access to it by means of a shaft, as in the case of the Canadian Niagara Company's tunnel, could not be had. The Commissioners, therefore, authorized the sinking of a shaft on the shore, just north of the intake of the International Railway Company, and the driving of a drift or small tunnel from the bottom of the shaft out under the river bed to a point in the line of the main outflow tunnel, and with a cross drift to the face of the Falls to facilitate the disposal of waste material. This most interesting work has been successfully accomplished, and operations have now commenced on the main tunnel.

The Company has recently submitted for the approval of the Commissioners the preliminary plans, which it has had prepared by an eminent Canadian architect, for the power house in the Park, and which include the treatment proposed for the immediate surroundings of the power house building. From an examination of the half-tone plate, which is reproduced in this Report, it will be seen that the design is for a well-proportioned structure, suitable for the location, and exceedingly effective in its architectural treatment. The material is to be of Canadian granite, and the Commissioners are informed that no expense will be spared to have the buildings and surroundings conform to the highest esthetic taste.

Table Rock House and Dufferin Cafe.

The lease entered into with Messrs. Zybach & Brundage in 1893 for the right to take visitors under the Falls and for photo and other privileges in the Park, was made for a period of ten years, at a fixed rental, with right of renewal for another period of ten years at a rental to be agreed upon or to be fixed by arbitration. At the first ten-

yearly period was about terminating, it became necessary to negotiate terms for either the abandonment of the lease, or for a renewal under such conditions as might be mutually satisfactory. The Commissioners have long felt, and often expressed, their conviction that it would be decidedly to the interest of the Park to have the two large structures known as Table Rock House and the Museum or Dufferin Cafe entirely removed, and only such shelters as might be absolutely necessary for the convenience and comfort of visitors substituted. Upon negotiating with the lessees it was found impossible to arrive at a satisfactory arrangement upon which the Table Rock House could be removed, but in respect to the Dufferin Cafe, which is much the larger and more objectionable of the two structures, as it completely obstructs the views of the Falls from a large portion of the picnic grounds, an agreement was arrived at whereby provision was made for the entire removal of this unsightly building, and the substitution of accommodation in a new and modern shelter and refectory building in a less objectionable portion of the Park. It was also found that, owing to the continued recession of the Falls, aided in some measure by the filling of the foreshore at the edge of the Falls, the waters falling over the portal of the scenic tunnel had been cut off, and visitors could no longer go behind the "Sheet of Water." It became necessary, therefore, in order to preserve this feature of the franchise, to devise means by which visitors could be taken a considerable distance farther under the Falls, so as to reach the heavy falling water. After protracted negotiations, an agreement was made with the lessees for a renewal of the franchise for ten years, at an increased rental, and arrangements were concluded whereby a new scenic tunnel should be constructed from Table Rock House to a point well under the heavy sheet of water, with an electric elevator connecting the three floors of Table Rock House with the tunnel by means of a shaft, and the provision of temporary quarters for the lessees during the demolition of the Dufferin Cafe, all this work being performed by the Ontario Power Company, in accordance with its pipe line and power house agreement.

The text of the agreement made with Messrs. Zybach & Brundage, the lessees of the privileges, will be found in the appendix.

New Shelter and Refectory.

Reference has already been made to the new Shelter and Refectory Building required in substitution for the Museum Building. In order to obtain full information of the requirements of the public in this respect, and to see the most recent designs and judge of the facilities afforded by other Park Commissioners in respect to such structures, a deputation from the Board, accompanied by the Superintendent of the Park, spent a few days in the early part of the season visiting the Park systems in Chicago, Milwaukee and Minneapolis, and carefully inspected the appointments in each of these places. The information gained was of great assistance to the Board in working out the plans for the new building, the ground plan and general arrangement being patterned on the lines of the Humboldt Park Refectory in West Chicago, but adapted to the special needs of Niagara Falls.

The Refectory Building has been designed exclusively for the accommodation of the public, and provides spacious waiting rooms, with ample retiring and toilet conveniences in connection therewith; dining-rooms and rooms for the accommodation of picnic parties, where hot and cold water is furnished, and a room for the display of photographs and fancy goods. The building has a total frontage of one hundred and forty-five feet, and is one hundred and twenty feet in depth. It is constructed of boulder stone and green shingle work; the stone has been obtained chiefly from the bed of the Niagara River, where it has been unwatered for purposes of electrical development construction. Although the style of the architecture is distinctly modern, it has been modelled some-

what on the type of a Swiss Chalet. A prominent feature of the structure is a large corner tower which contains the main hall; the rest of the building is subordinate to and leads up to this main feature. This tower is also utilized for an outlook, which is reached from the main hall by means of a circular stairway. There is ample verandah accommodation, disposed in such a way as to command the best view of the Falls.

After duly advertising for tenders, a local firm of contractors was awarded the contract for the completed building for the sum of \$56,968, and the work is now well under way. The building is to be ready for occupation on the first day of June next.

Canadian Ship Building Company.

The remarkable growth of the carrying trade on the Great Lakes in recent years, and the consequent demand for vessels of large carrying capacity, has stimulated the ship building industry of the Province, and the Canadian Ship Building Company has been organized, and has acquired lands on the Upper Niagara River, between Bridgeburg and Black Creek, for the purpose of establishing a shipyard on a large scale. In order to secure the requisite space for the launching of modern vessels, it was found necessary to divert the "Chain Reserve" or highway which runs along the margin of the river around the shipyard proper, and an application was therefore made to the Commissioners for the privilege of so doing. The Company also desired the water lot, the property of the Crown, in front of their lands, in order to deepen the approaches to the docks and launching basins. As it was considered desirable to, in every way, facilitate the establishment of an industry likely to be of great and lasting benefit to the Province, and the municipal authorities did not object to the change, an agreement was entered into providing for the diversion of the road and the granting of the water lot in question, the Company to provide an eighty feet wide roadway across their property in lieu of the present road, and to pay a nominal sum yearly for the privilege.

The agreement will be found in the appendix to this report.

General Work.

The very extensive operations referred to in the previous part of this Report for the development of the water power have of necessity caused a great deal of disturbance of the surface of the Park, and since the commencement of the work of the Electrical Development Company practically the whole of the Park south of and including the picnic grounds have been in a chaotic condition. Owing to the magnitude of these works, immense quantities of earth and rock have to be taken from the excavations and disposed of, and enormous quantities of construction materials have to be brought in the Park ground and stored ready for use in the various structures. As far as is practicable, the surplus material from the excavations is being used in developing the Park surface and in extending its area by reclaiming from the river portions of the foreshore. At the Dufferin Islands a series of cascades are being formed in the channels dividing the islands, and with a view to the restoration of natural effects a group of small islands is being added to those now in existence. The Commissioners are also arranging for the removal of the high steel railway bridges as well as the single way carriage Suspension Bridges, and the substitution of stone and cement arch structures, which will be more in harmony with the character to be given this portion of the Park. The vast scope of the works in process will, of course, require a considerable length of time for their full completion, and the Commissioners do not expect that the Park surface can be completely restored over this extended area for two or possibly three years. They confidently expect, however, that before the close of this year a large part of the territory now occupied by the Canadian Niagara Power Company, and some of that in possession of the Ontario Company, will have been graded and surfaced and made ready for sowing or planting.

The Commissioners have no hesitation in asserting that when these works are all completed the scenic characteristics of all this portion of the Park will be vastly improved, and the whole environment of the Falls on the Canadian side will be rendered tenfold more interesting and instructive to visitors.

North of the Picnic Ground the Park has been maintained in good order throughout the year, and has afforded pleasure and delight to a greater number of excursion and picnic parties than ever before.

The usual operations of maintenance and improvement have been carried on at Niagara Glen and at Queenston Heights Park, and at Fort Erie a beginning has been made to the restoration of this newly acquired Park by the erection of a neat fence enclosing the grounds and by repairs made to the walls of this historic Old Fort.

The several field works which have been carried on during the year are referred to at length in the accompanying Report of the Superintendent of the Park.

The statement of the receipts and expenditures for the year will be found attached hereto.

All of which is respectfully submitted.

J. W. LANGMUIR,

Chairman.

GEORGE H. WILKES.

JAS. BAMPFIELD,

A. W. CAMPBELL.

ROBERT JAFFRAY.

RECEIPTS.

Balance on hand in Imperial Bank, January 1st, 1903		\$11,710 85
Electrical development Co., rental, 2 years	\$30,000 00	
Canadian Niagara Power Co. "	15,000 00	
International Railway Co. "	10,000 00	
Zybach & Brundage "	10,166 67	
Ontario Power Co., on account Refectory building	20,000 00	
Wharf Privileges	423 00	
Tolls and Sundries	532 07	
Bank interest on balances	1,263 77	87,385 51
		<u>\$99,096 36</u>

NOTE.—There is also on hand a special deposit of \$25,000 by the Electrical Development Company to meet cost of wing dams at intakes of Canadian Niagara Power Company, and at joint intake of International Railway and town of Niagara Falls.

EXPENDITURES.

Capital Account.

Paid wages, permanent works account	\$1,233 97	
" materials " " "	3,965 08	
" lands account	50 78	
" Expert Engineering opinions :		
I. Randolph	1,103 90	
R. Douglas	555 00	
P. N. & L. L. Nunn	1,000 00	
	<u>2,658 90</u>	
" account legal services	1,838 30	
" Refectory building	11,087 75	\$20,834 78

EXPENDITURES.—*Continued.**Maintenance Account.*

Paid Salaries—Office and clerical staff	\$4,561 97	
“ “ Constables and Gardener	5,020 33	
“ wages of laborers and teams.....	9,222 20	
“ for materials	3,594 50	
“ office expenses	393 85	
“ Commissioners' expenses	922 32	
“ Miscellaneous.....	1,490 92	
		25,206 09
“ Interest on Bonds, including Bank charges.....		24,147 01
“ Honorarium, granted by Order-in-Council to Chairman.....		5,000 00
Credit balance in Imperial Bank		21,908 48
		<u>\$99,069 36</u>

APPENDIX “A.”

Copy of an Order-in-Council, Approved by His Honor the Lieutenant-Governor, the 6th Day of March, A.D., 1903.

The committee of council has had under consideration the report of the Honorable, the Provincial Treasurer, dated 3rd March, 1903, wherein he states that Mr. J. W. Langmuir has served seventeen years without remuneration as Commissioner of the Queen Victoria Niagara Falls Park, for the last ten years of which period he has been Chairman of the Board, and has been unremitting in his attention to the duties of his office. Owing very largely to his sagacity and foresight he has successfully negotiated an agreement for the installation of three corporations for the development of electrical energy, from which the Park realizes annually a rental of nearly sixty thousand dollars (\$60,000), and which when operated to their full capacity will yield a rental of over two hundred thousand dollars (\$200,000) a year. It is quite apparent that this could not have been accomplished without more than ordinary business sagacity, and without having drawn very largely upon Mr. Langmuir's time. In addition, it may be stated that the Park has been in every respect kept up to a very high standard of excellence and beauty, and is the admiration of visitors from all parts of the world.

In view of these exceptional services, and the advantages to the Province therefrom, the Treasurer recommends that the Park Commissioners be authorized out of the accumulated funds in the Treasury of the Board of Commissioners to reward Mr. Langmuir by an honorarium of five thousand dollars (\$5,000) as a slight consideration for his valuable services.

The committee concur in the recommendation of the Treasurer and advise that the same be acted on.

Certified,

(Sgd.) J. LONSDALE CAPREOL.

Asst. C. E. C.

Referring to the foregoing order-in-Council, the other members of the Board passed the following resolution :

It was resolved that this Board of Commissioners of the Queen Victoria Niagara Falls Park desire to express their appreciation of the action of the Ontario Government in passing an Order-in-Council, acknowledging the valuable services rendered to the Government and to the country by J. W. Langmuir, Esquire, during his long connection

with the Board of Commissioners, and particularly the services rendered by him while Chairman of the Board. While recognizing that the Government, in acknowledging these services by Order-in-Council, has offered an exceptional tribute to Mr. Langmuir, the members of the Board are also much pleased that this expression of appreciation is accompanied by an honorarium. During Mr. Langmuir's Chairmanship, the Park territory has been extended, and franchises have been granted for the development of electric power within the Park, involving an outlay of nearly \$15,000,000. All negotiations with respect to power development have been dealt with through the Park Commission.

Mr. Langmuir's well-known ability and integrity attracted large investors, commanded confidence, smoothed and aided negotiations, and has done much to hasten the era of manufacturing development at Niagara, and the utilization of this enormous power for the country's welfare. We especially appreciate his consistent and skillful adherence to the necessity of harmonizing these works with the majesty of nature. The wide experience of the Chairman in dealing with large financial problems, his discernment and grasp of details, as well as of the larger issues involved, have been untiringly and earnestly devoted to the furtherance of the public interests placed under his guidance, in treating with these vast industrial enterprises. It has therefore given Mr. Langmuir's colleagues on this Board of Park Commissioners the greatest pleasure to act in accordance with the foregoing Order-in-Council.

APPENDIX "B."

REPORT OF THE SUPERINTENDENT OF THE PARK.

To the Commissioners of the Queen Victoria Niagara Falls Park :

Gentlemen,—The year 1903 has been one of unceasing activity, particularly in those portions of the park south of the Dufferin Cafe, where the works for the development of the water power of the Falls have been cared on.

The three companies who have undertaken this work have each designed their works upon a scale much greater than has hitherto been attempted in similar operations, and the practical working out of the various systems adopted by the engineers of these companies become more interesting and instructive to visitors as the work advances. Already the extensive operations under way have attracted professional men from many lands, and without question when the very large units determined on for the hydraulic and electrical machinery have been installed the interest excited in these works will be incomparably greater.

CANADIAN NIAGARA POWER COMPANY.

The operations of this the pioneer company, have been unremittedly prosecuted throughout the year. The outflow tunnel, designed to carry away the waste water from the turbines to the lower river, and which had been cut through the solid rock for nearly the whole of its length at the beginning of the year, has received a lining of concrete and brick up to the springing line of the arch, and for about one-third of the total length, the heavy brick arch has been put in and the working space above the arch packed tight with stone spalls. Where the tunnel approaches the river, heavy granite masonry is substituted for the brick lining, and a vertical reverse curve, or gooseneck, is formed to accelerate the velocity of flow at the outlet. The gooseneck terminates in a very massive cross wall of granite carried deep down into the solid rock, and well up above the crown of the arch, to form an abutment for the talus or loose rock falling from the face of the cliff. By great exertions the portal work was completed before the winter set in; but the barrier left in front to keep the waters of the river from flooding the work during construction has yet to be removed.

At the wheelpit, the excavations for the northerly one-half of the length, which were well under way last year, have been taken down to invert level, and the side excavations for draft tube chambers and girder bearings have been taken out. Work upon the excavating of the southerly half of the wheelpit, which was begun during the past season, has been carried on steadily, about two-thirds of the area having been carried down to a depth of over fifty feet. The brick lining in the wheelpit has made good progress, about one-third of the north half of the pit being finished to within fifty feet of the top, and the heavy draft tubes for three of the hydraulic units, and all the girder bearings in this portion have been set in place and bricked in.

Above the level of the forebay a great deal of work has been accomplished, substantial masonry walls have been built for the power house foundations, which, including the recesses or inlet by which the water to penstocks is admitted, have been carried up to floor level, and five of the great penstock mouthpieces have been built in place. The apron and long walls of the ice run, including part of the arched bridge over the same, the river retaining wall, and the north forebay wall are nearly finished. At the south end of the forebay, the excavations for the wheelpit and forebay extensions have all been cleared away to solid rock level and part of the bottom has been taken out to grade. The beautiful five-span masonry bridge to carry the electric railway and the Park driveway over the forebay has been, with the exception of the sidewalk, finished. This bridge is built for two tracks, a driveway and a cement sidewalk on the easterly or river side. The arches are of armored concrete, the piers and abutments of dressed stone, parapets of rock-faced masonry, relieved by dressed chiseled margins, and with a finely-tooled coping.

All the masonry work constructed by this Company is of the most substantial character, and in harmony with the approved design for the power house. Large quantities of materials for the power house building have been brought upon the ground; the construction, however, will not be begun until the spring opens.

As the Company have built their transformer house outside the limits of the Park, a conduit was needed in which to carry the numerous electric cables required to connect the generators in the power house with the step-up machines in the transformer house, where the electricity will be prepared for long-distance transmission. This conduit has been partially constructed.

ONTARIO POWER COMPANY.

The excavations at the site of this Company's power house, which is on the sloping bank of the river below the Falls, have been considerably extended during the year, and a ready means of access to the works has been provided by the construction of a wagon road for teams and materials from a point on the highway leading down to the Maid of the Mist landing. This power house has been located only a short distance from the east face of the limestone cliff, which rises to a height of one hundred and twenty feet above the proposed building, and in places has a considerable overhang. The company made a very careful examination of the condition of the face of the cliff, and, finding it seamed in many places, and some portions liable to fall at any time, authority was given the Company to remove all loose or seamy material on the face of the escarpment, and to build up on the ledges of solid rock a revetment wall of sufficient strength to ensure its permanently maintaining the roadway and sidewalk on top, and with provision for carrying away any drainage or seepage which might endanger the power house in the future. This work has all been done, with the exception of the parapet wall and cement sidewalk, which could not be finished on account of severe weather setting in.

The very extensive earth-work and rock excavations required for the pipe line which will traverse the Park from the intake works at the Dufferin Islands to a point near the Dufferin Cafe, have been vigorously carried on, and with the exception of a short section near Clark Hill, this important work is now completed. At either end the excavations were made wholly in rock, and owing to the large diameter of the pipe and the necessity of securing a proper grade, had to be made deep. From a point opposite the pump house to the northern limit of pipe No. 1 the rock has been loosened for a width sufficient for two pipes, but the loose rock for the extra width has not been removed from the trench. Opposite the power house of the Canadian Niagara Power Company, where the Company are required to build a bridge to carry the conduit of the Canadian Niagara Company over the pipe lines, the excavations were heavy, but as the material was chiefly clay and gravel, not much difficulty was experienced. At the crossing of the electric railway near Clark Hill the necessity of keeping the railway open for traffic while the excavation is in progress has delayed the work at this point.

A commencement has been made on the eighteen feet diameter steel tube which is to carry the water supply to the power house, and several hundred feet of this—perhaps the greatest water pipe ever constructed—have been set up in place, riveted together, and a number of the stiffening rings put on. It is proposed to vigorously prosecute this work during the winter months.

At the Forebay, nearly one-third of the rock excavation needed to secure the required depth of water has been taken out, and the material used in forming extensions to the Dufferin Islands. A considerable quantity of the loosened rock has also been crushed for use in the concrete walls required to encircle the forebay. The main outer water wall, or overflow dam, has been partially constructed—this most important work is required to maintain the level of the water in the forebay, and upon its stability the future success of the works depend—the portion built is designed upon substantial lines, with a high factor of safety, and in the execution of the work every precaution has been taken to ensure the best possible construction.

Early in the year it was discovered that the diverting dam built by the Company at the head of the Forebay did not afford a sufficient depth of water at the mouth of the intake, but that a short distance up stream there was a much greater depth available. It was therefore necessary to construct a second diverter some distance south of the one originally built, and farther out into the stream. This important work has been completed, and the one first constructed will be removed when the excavations in the river bed have been extended up to it.

In consequence of an application by the Company for certain changes in its agreements which would interfere with the business carried on by the lessees of the Table Rock House and Dufferin Cafe privileges, an arrangement was arrived at under which the company undertook to construct a new elevator and shaft at Table Rock House, with a tunnel cut through the rock from the foot of the shaft to a point well under the heavy curtain of water forming the westerly margin of the Horseshoe Falls. This important work has been carried on under many difficulties and delays, and is now almost ready for operation. The shaft is cut down to a depth of 95 feet in the rock, and from this point a tunnel extends 750 feet to the face of the cliffs, where a gallery affords visitors a most interesting view of the conditions existing behind the Falls. The elevator shaft is also carried up to the roof on the south end of Table Rock House, and connections are made with each of the three floors. The motive power of the elevator is electricity.

ELECTRICAL DEVELOPMENT COMPANY.

The Electrical Development Company has prosecuted its enterprise with great energy since receiving its franchise. The construction of a coffer dam was, of course, the first

work undertaken, and it has proved to be a most arduous task, owing to the great depth of water found along the whole of its length, to the fierce current where the water was deepest, and which had to be breasted by the coffer dam in a direction almost normal to its line of flow, and also to the exceedingly rough and broken character of the river bed, which was found to be riddled with pot holes and crevices, particularly where the work crossed the Cascades. Notwithstanding all these obstacles, the work has been successfully carried on, and is now nearing completion. A commencement was also made on the wheelpit and power house excavations and the area required for these operations has been enclosed by a secondary cofferdam, unwatered, and the deposit overlying the solid rock removed ready for the drilling operations. The unwatering of the large area referred to has proved a difficult matter, owing to the many fissures found in the bed of the stream, admitting water in large quantities underneath the cofferdam, and which necessitated very heavy pumping to permit of the work being proceeded with. The contractors for the wheelpit have installed a large power plant for the rapid prosecution of its work, and the motive power employed is electricity, brought from the works on the American side.

In addition to these heavy operations the Company have commenced work on the tunnel which is to carry away the waste water from its hydraulic machinery at the bottom of the wheelpit.

In order to reach the northerly outlet of the tunnel which is under the river bed, near the centre of the Horseshoe Falls, the Company were obliged to sink a large shaft at some convenient point on the shore, down to the level of the main work, and drive out a service tunnel to the point required. This most interesting work was rapidly accomplished, and work upon the main tunnel is now under way. In order to ascertain the precise conditions obtaining under the centre of the Falls, and to obtain a dumping ground for the waste materials taken out of the tunnel excavations, a cross drift was made from the main service tunnel and an opening cut through the face of the gorge; here much difficulty was experienced owing to the seamy character of the shale through which the drift was made, but an excellent place for dumping the excavated material was obtained, and a good deal of valuable information secured with respect to the requirements of the outlet for large tunnel.

INTERNATIONAL RAILWAY AND TOWN INTAKE.

The work begun by the Canadian Niagara Power Company last year in extending and widening the intake for the water supply of the electric railway and town, has, under plans approved by the Commissioners, been carried through to the railway power house and one common open waterway with permanent concrete side walls substituted for the two separate wooden flumes, the timbers of which were found to be in a more or less decayed condition. This work will give a much better water supply to the railway and the town and provide better facilities for getting rid of the ice than has heretofore obtained. The change will also admit of a permanent improvement being made to the surface of the Park contiguous to the intake, and secure the erection of a new bridge for Park purposes without cost to the Park. The railway company have also made some changes in their wheelpit within their power house, with a view to securing a much more constant supply of power.

It is interesting to note, in view of the discussions referred to in the last report of the Park Commissioners, that the effect of the construction of the cofferdam of the Electrical Development Company, and the upper dam of the Ontario Power Company, upon the surface levels of the river at the joint intake of the International Railway and the town, has been inappreciable, although both of the constructions mentioned have been carried well out into the stream and some strong cross-currents have been created

at the cascades with a setting towards the shore of Goat Island. What the final effect may be when the dams are removed and the power works are in operation is, of course, still a debateable question.

NEW REFECTORY.

For reasons already referred to it became necessary to provide new shelter and restaurant accommodations in place of those afforded by the old Museum or Dufferin Cafe, and a plan for a new building having been approved, a location was selected and building operations commenced as soon as the excursion season closed. The new building is a substantial structure, irregular in outline, about 148 feet in length by 118 feet in extreme width, with a height of 21 feet in front to the cornice over the verandah, and 68 feet in extreme height of tower roof.

The basement floor, which is even with the level of the ground at the front of the building, has accommodation for picnic parties who may bring their own baskets, and abundant hot and cold water facilities are provided for their use; a separate room being allotted for the convenience of ladies. On this floor scullery and pantry facilities for the Refectory are provided, and toilet conveniences for both ladies and gentlemen.

On the main floor, which is reached by wide stairways, both inside and outside the building, are large waiting rooms, affording excellent views of the Falls, three separate dining-rooms, which may be used separately or en suite, kitchen and pantry facilities, and toilet rooms for ladies. On this floor there is also accommodation for the lessees of the photo and fancy goods privileges, and on three sides very roomy covered verandahs, commanding views of the entire panorama of the Park and Falls, and where luncheon may be served on very warm days. The upper floor, which is in the roof, contains bed rooms and accommodation for the restaurant keeper and his help, photo printing rooms for the use of the lessees, and some rooms for the convenience of the Commissioners. The principal waiting room, which is at the south east corner of the building, is carried up as a tower, giving a lofty room with lantern galleries reached by a winding stairway, and from which delightful views of the Falls and Upper Rapids may be had.

The Dufferin Cafe building has been taken down and much of the debris removed. The taking away of this structure opens up the park at its most contracted point and affords very great relief in all the scenic aspects of the locality. When spring opens the foundations of the old building will be covered over with soil and planted out with shrubbery in such a manner as to set off the New Refectory to the best advantage, as viewed from the electric railway tracks on the driveway, and at the same time afford the best possible views of the river and Falls from the building.

General Work.

The northern portion of the Park proper, that is, from the Mowat Gate to the picnic grounds, has been efficiently maintained throughout the year, and improvements made at many points,—the heavy rainfall of the season proving most beneficial to the trees and shrubs, while the lawns were always fresh and green.

The perennial border between the ball ground and the Robinson street entrance, which was laid out in 1901, has now become a very interesting feature of the Park, and throughout the season, from early spring until snowfall, the constant succession of ever-varying bloom afforded great delight to visitors.

This well sheltered part of the grounds is admirably adapted for the purpose to which it has been put, and many species of plants which apparently cannot be grown north of Philadelphia without winter protection are here grown with perfect freedom.

A portion of the grounds north of Robinson street have been drained and laid out as a temporary cricket ground, as the location selected for the permanent crease, which on account of the spray is to be near the greenhouses, is presently occupied by the materials required in the new power works.

The heavy teaming over the roads in the Park consequent upon the power development works now in progress has of necessity made it a difficult task to maintain the driveways in good order and condition. In order to secure the best results in road repairs, a seven-ton steam road roller was purchased, which will be available at all times when road metal is being applied to roll the surface to a hard finish.

Notwithstanding the abnormal rainfall of the early part of the season, the numbers of excursionists and picnic parties visiting the Park have been largely in excess of other years. The facilities and conveniences afforded, as well as the unrivalled natural beauty of the surroundings, making a combination of attractions no where else to be found. Doubtless when the works now under construction are completed, and the Park surface throughout restored to its new and improved condition, the added attraction of the great works for the production of electrical power will stimulate the interest of the general public to a degree beyond present conception.

Despite the great numbers of visitors, good order has been maintained throughout the season.

Early in November the laborers employed in the power works in the Park organized a strike against a reduction in the rate of wages, and for some time the situation looked grave, as by some means the strikers had possessed themselves of explosives, used in the work, and some force was used to compel those who did not wish to leave work to join the strikers. Owing to the excellent judgment displayed by the Park constables, aided by the Provincial and civic police, and to the presence of a company of the 44th Regiment, under Col. Cruikshank, the ringleaders were weeded out and put under arrest, and the strike was ended without serious damage to either person or property.

Outlying Territory.

At Niagara Glen a new and most interesting walk has been made along the waters' edge, from the spring entirely around the point, forming the southern extremity of the glen to "Cripp's Eddy," and the other walks and paths throughout the glen have been repaired and improved.

At Queenston Heights, the grounds lying to the west of Brock's Monument have been cleared, graded and made into lawn; and the belt of woods around the old earthworks adjoining has been thinned out. These works give a much more dignified setting to the monument. A tie-up yard has been constructed in a sheltered location nearly contiguous to the picnic grounds, for the convenience of those driving to the Heights to spend the day. The Queenston Heights Park is also becoming more and more an attraction for the better class of visitors, and the accommodations there provided for their convenience and comfort are being more widely appreciated by church and Sabbath School organizations. No difficulty has been experienced in maintaining order throughout the year.

At Fort Erie it became necessary to set up part of the main wall of the Old Fort, the stones of which had been thrown down by vandals, chiefly from the City of Buffalo. This was done in cement mortar, and made as nearly as possible like the original work. The ornamental garden wire fence along the front of the Reservation and the woven wire fence along the north limit have been completed, and a neat Credit Valley stone gateway erected opposite the centre of the face of the fort. No attempt has been made towards improving or planting the property as yet.

Through the good offices of the Member for the County, Mr. W. M. German, K. C., the Parliament of Canada has voted the sum of \$1,750 for a monument to be erected

on the grounds about the fort, to commemorate the stirring events enacted during the war of 1812-14. The memorial will consist of a circular shaft of rock-faced stone, with carved capital and finial and with a bronze plate suitably inscribed. The design has been submitted to the Honorable the Minister of Militia and Defence for his approval.

During the year the Chief Gardener, Mr. Roderic Cameron, has catalogued all the varieties of trees and shrubs found growing in the Park. This comprises the varieties which are indigenous to the soil, and also the varieties which have been introduced since the establishment of the Park. Altogether, no fewer than eight hundred and ten are enumerated. Mr. Cameron has also made a catalogue of the very extensive collection of plants cultivated as perennials now found in the Park. In the listing of all these plants Mr. Cameron has brought to bear his well-known enthusiasm and rare botanical skill, and to all interested in the fascinating study of botany, the publication of these catalogues will be of particular value, as the Park contains many rare plants which have hitherto not been grown elsewhere in Canada.

The whole respectfully submitted,

JAMES WILSON,
Superintendent.

APPENDIX "C."

ADDRESS TO THE AMERICAN PARK AND OUTDOOR ART ASSOCIATION.

By J. W. Langmuir.

Address given by Mr. J. W. Langmuir, Chairman of the Queen Victoria Niagara Falls Park Commissioners to the Members of the American Park and Outdoor Art Association, on the occasion of their visit to the Park, 8th July, 1903.

On behalf of the Park Commission, the pleasant duty falls to me of welcoming you and the members of "The American Park and Outdoor Art Association" to Canada and to the Queen Victoria Park. The Commissioners feel highly honored in having as their guests the members of this distinguished and useful association, which has done so much in the past few years to awaken public sentiment in favor of providing parks and open spaces for the enjoyment of the people, and the honor is much enhanced in also having on this occasion our confreres of the New York State Reservation, whom we would like to meet much oftener.

It may not be uninteresting to the members of the Park and Outdoor Art Association who are present if I very briefly review the history of the founding of Niagara Falls Park on the Canadian side of the river, more especially as the financial basis upon which it was established materially differs from that governing any other park represented in the association, and for that reason, may perhaps be deserving of your consideration.

The Commissioners of Queen Victoria Park claim that to Lord Dufferin, who was Governor-General of Canada from 1872 to 1878, is due the credit of first suggesting the advisability of having a system of national parks on both sides of Niagara Falls. In a now historic interview had with Governor Robinson of the State of New York in 1876, Lord Dufferin strongly advocated the scheme, which as you all know was carried into practical effect on the 15th July, 1885, when the "New York State Reservation at Niagara" was opened to the world.

The State of New York, with commendable generosity, not only undertook the purchase of the lands selected for park purposes, but also makes an annual appropriation for improvements and general maintenance. Thus, from the very outset, the Commissioners of the Reservation have been practically relieved of all financial anxiety, and

have been enabled to devote their entire efforts to the work of improving and maintaining their magnificent domain.

Differing from these very fortunate conditions, the Province of Ontario had neither the population nor the wealth of the great State of New York; and although the then Premier of Ontario, Sir Oliver Mowat, most heartily favored the Park project, neither he nor his Cabinet felt that the requisite funds could be spared from the revenues of the Province of Ontario for its establishment. Moreover, they took the ground that the proposed park should be a national one, and that it was the duty of the Dominion Government to take the necessary action for its foundation. Several years elapsed, therefore, after the opening of the New York State Reservation before any progress was made, and when the Dominion Government finally decided not to undertake the work, there appeared but little prospect of a Government Park being founded on the Canadian side of the Falls.

The action, however, of the State of New York in appointing Commissioners, and in vigorously prosecuting its work of reclamation, had a marked influence upon public sentiment, resulting in the Legislature of Ontario at its session in 1885 authorizing the appointment of three Commissioners to select and appraise the lands required for a Provincial Park at Niagara Falls. Instead, however, of purchasing the properties and vesting them in the Commissioners free from debt, as was done by the State of New York, it was laid down as a cardinal rule in our charter that the Park should not become a burden upon the Province at large, and that the cost of lands as well as of improvements and maintenance should be provided by the Commissioners from revenues to be created and developed within the Park limits.

Owing to these financial conditions, the Commissioners in selecting the grounds felt constrained to limit the area so as to include only the land between the Clifton House on the north and the lower point of Cedar Island (just above the Horseshoe Falls) at the south, thus giving an eastern boundary along the river, including the Falls, of about a mile. From these grounds visitors would be afforded a very complete view of the cataract and the gorge below the Falls, and to a limited extent of the Upper Rapids.

While the acquirement of this restricted area would have materially diminished the original cost of the Park, and also the annual expenditure for maintenance and improvements, the Commissioners could not overlook the fact that the hand of nature had very clearly defined what should be the proper boundaries of the Canadian Park, namely, commencing at the Clifton House on the north and extending along the river for a distance of about $2\frac{1}{2}$ miles, including the Upper Rapids and the Dufferin Islands, and from the river on the east to the richly-wooded bluff of high land forming the ancient margin of the river on the west, containing an area of about 154 acres.

Upon a careful survey of the whole situation the Commissioners decided to recommend the inclusion of the enlarged area which recommendation was finally approved by the Government, and the work of appraisal was at once proceeded with. Early in 1887 the Ontario Legislature passed the Park Act, which empowered the Commissioners to issue debentures to the extent of \$600,000, secured by the property and revenues of the Park, and running for a period of 40 years, and out of the proceeds of such debentures the lands selected were paid for.

It will thus be seen that the burden rested on the Commissioners, not only to provide the funds for acquiring the Park properties, but also to meet the interest on the debenture issues, as well as the necessary outlays for improvements and current maintenance, the whole involving an expenditure of over \$40,000 a year. To assist in meeting these large annual payments it was the original intention of the Commissioners, although very reluctantly arrived at, to charge an entrance fee for visiting the Park, but

as admission to the New York State Reservation was made free to the public, that intention, I am glad to say, was abandoned and other means of raising revenue had to be devised.

After much consideration and not a little solicitude, it became evident to the Commissioners that the requisite revenue could only be raised by granting certain franchises and privileges within the Park. While the primary object in granting such concessions was to provide revenue, the Commissioners fully realized that the public sentiment of the Province would not, even in furtherance of this necessity, tolerate or permit any desecration of the Park property, and notwithstanding the adverse criticism of some of the methods resorted to for raising money the Commissioners confidently assert that no violence will be done to the most æsthetic taste in the granting of these revenue-producing franchises. That, the public may judge whether we are warranted in making this statement or not, I may be permitted to comment very briefly on the three classes of franchises that have been granted.

First. Owing to the great length of the Park domain, extending from Chippawa to Queenston, a distance of nearly twelve miles, every portion of which is full of historic interest and scenic grandeur, it was vitally important that all the objective points should be reached by an electric railway, so that tourists might be able to visit every place at a reasonable cost. This was accomplished by inducing capitalists to construct an electric railway; the Commissioners granting the right to lay a track through the Park, and on the property of the Commissioners northwards to Queenston, for which they receive \$10,000 per annum. That this railway has been a great boon to visitors, both pecuniary and visually, in enabling them to view all points of interest with ease, comfort and satisfaction, is almost universally admitted.

Second. A franchise was granted to supply meals and refreshments to visitors within the Park; the lessee also having the right to use the elevator for taking visitors under the Falls, as well as the exclusive privilege of selling photographs. It cannot be denied that these privileges are all distinctly in the interests and comfort of visitors to the Park, and being directly under the control and supervision of the Commissioners, they cannot be abused. This privilege produces a revenue of \$10,000 a year.

Third. The remaining concessions embrace three franchises granted by the Commissioners to power companies to take water from the Niagara River above the Falls for the purpose of generating electricity for transmission beyond the Park; and it is these concessions more than anything else that have caused unfavorable criticism in some quarters. Apart altogether from the question whether in the granting of these rights the Commissioners can, under all the circumstances, be fairly charged with desecration of the sacred grounds committed to their care (and I use the adjective sacred as being peculiarly applicable to all the surroundings of the great Cataract), let me at once admit that the Commissioners and the Government of Ontario could not reasonably ignore the imperious demand of public sentiment throughout the country that the waters of the Niagara River should be in part utilized for developing electrical power for commercial purposes. And the public demand was emphasized by having in view the great electrical development, with all its attendant advantages, on the other side of the river, while the infinitely better locations on the Canadian side for power production were lying fallow.

It is, however, due to the members of the American Park and Outdoor Art Association, as leaders and educators in the development of park and play grounds for the public that I should frankly state all the facts in connection with the granting of these franchises to power companies in order that the Commissioners may be completely freed in your minds from the charge of desecrating the Park territory. To this end let me say that the sites granted to the power plants are distinctly outside of the territory which was originally intended to be expropriated for Park purposes.—indeed, the

acquisition of the property on which they are located was entirely an after-thought, but a very fortunate one, I will admit, for the Commissioners. Had, however, the property not been expropriated as an adjunct to the Park, it would long ere this have been undergoing the process of conversion into a manufacturing district immediately overlooking the Park, with all the defacement and other objections incident to such surroundings. Instead of this we will have plans approved of in every detail by the Commissioners for the greatest electrical development in the world, especially designed to do the least possible violence to the environment of the great cataract; with all works of construction appearing on the surface, including power houses and bridges of the most artistic design, so as to be in harmony with their surroundings.

From these three franchises the Commissioners receive a present rental of \$60,000 per annum and a royalty on every horse power developed in the future which, when all the works are in full operation, will amount to about a quarter of a million dollars annually. I started out by stating that I thought the financial basis on which the Queen Victoria Park was established differed materially from that governing other public parks, and I have indicated the sources of revenue devised for Park purposes. I have only now to add that, so far the Commissioners have not called upon the Province of Ontario to pay a dollar for the acquisition, improvement or maintenance of this great national Park, and that out of the revenues the whole of the debenture debt and interest will ultimately be paid.

And now in conclusion will you permit me to venture into the field of prophecy. Let me ask you to look into the future,—the near future, I hope—and picture in your mind's eye the completion of all the plans and projects of the Park Commissioners on the Canadian side of the river. It is doubtless known to some of you at least that the river bank from Lake Erie to Lake Ontario, a distance of over thirty miles, is now vested in the Commission. This reserve is now in the process of being improved; the bank of the river protected from erosion by the construction of an electric railway on the shore line from Fort Erie to the Park; a well-constructed and well-kept boulevard, ornamented with shade trees, will be constructed along the entire bank of the river, forming an avenue to Queen Victoria Park. Within the Park the works of construction in connection with power plants will be completed, with only two artistically designed power buildings in sight; the river bank along the upper rapids; the Dufferin Islands and the entire grounds above the Falls restored and beautified to correspond with the finished portion of the Park overlooking the cataract. The unsightly buildings overlooking the Falls (in one of which we are now sitting) torn down and a fine artistic structure for shelter and refectory purposes erected, and the whole of the grounds, roads and walks in the Park brought up to the highest standard of aesthetic taste. Then, passing from the Park surrounding the Falls to the lower gorge of the river, with its magnificent grandeur from the base of the cataract until its majestic banks and rushing waters merge into the quiet scenery of the lower river, we come to the "Niagara Glen," immediately north of the Whirlpool, comprising 100 acres of territory, unique in its unrivalled and primitive wilderness, which, by the construction of roads, walks and means of access will have become one of the most fascinating resorts in the gorge, as well as a very paradise for botanists. The Queenston Heights Park, with its grand panoramic views, will be completed and restored, from the historic monument on the summit to the shores of the river below, as well as the whole river gorge from the Falls to Queenston, and its magnificent views and vistas opened up. In fine, the whole shore of the Niagara River from Lake Erie to Lake Ontario, restored and converted into one continued series of avenues and parks for the recreation and enjoyment of the millions of overworked and tired humanity, where they can come for a time from the turmoil of their busy and wearing lives to this mecca of peace and quietness, to commune with the majesty of nature.

THE ONTARIO POWER COMPANY OF NIAGARA FALLS.

Agreement With the Commissioners of the Queen Victoria Niagara Falls Park. Dated
28th February, 1903.

THE PIPE LINE AND POWER HOUSE AGREEMENT.

This agreement, made this twenty-eighth day of February, 1903 : Between the Commissioners of the Queen Victoria Niagara Falls Park, acting herein on their own behalf, and with the approval of the Government of the Province of Ontario, and hereinafter called the Commissioners of the first part, and the Ontario Power Company of Niagara Falls, incorporated by the Parliament of Canada, and hereinafter called the "Company" of the second part;

And Whereas, the Company is authorized by chapter 120 of the Statutes of Canada of 1887 and other Statutes of the Company by means of utilizing the natural supply of the Niagara and Welland Rivers, with the object of promoting manufacturing industries and inducing the establishment of manufactories in Canada, and other business, to construct all such works, dams and wing dams, docks, conduits, accessories and buildings as may be necessary to give full intent to such powers, and by means of and through the works aforesaid to supply manufacturers, corporations and persons with water, hydraulic electric or other power for use in manufacturing or any other business or purpose; and so that none of the works authorized by the above recited Statutes of Canada relating to the Company shall be constructed within the limits of the Queen Victoria Niagara Falls Park; and so that none of the powers given by said Statutes or any of them, shall be exercised within the limits of said Park, except with the consent of the Lieutenant-Governor of Ontario in Council and of the Commissioners of the said Park;

And Whereas, by section 36 of Chapter 11 of the Statute of Ontario, 1899, to amend the Statute Law, it is enacted: The Commissioners of the Queen Victoria Niagara Falls Park, "with the approval of the Lieutenant-Governor-in-Council, may enter into an agreement or agreements with any person or persons, company or companies, to take water from the Niagara River or from the Niagara and Welland Rivers at certain points within or without the said Park for the purposes of enabling such person or persons, company or companies, to generate within or without the Park electricity or pneumatic, hydraulic or other power, conducting or discharging said water through and across the said Park or otherwise, in such manner, for such rental and upon such terms and conditions as may be embodied in the agreement or agreements, and as may appear to the Lieutenant-Governor-in-Council to be in the public interest."

And Whereas, at the time of the sealing of these presents, there are existing four several agreements made by and between the several parties hereto, and of the dates following:—

1. On 11th April, 1900. The First Agreement.
2. On 15th August, 1901. The Supplementary Agreement.
3. On 15th August, 1901. The Ancillary Agreement.
4. On 28th June, 1902. The Complementary Agreement.

All which agreements have been made with the approval of the Lieutenant-Governor-in-Council, in pursuance and in accordance with the above recited Ontario Statute of 1899, and with the approval of the Commissioners, as testified by being parties thereto;

And Whereas, by the above-mentioned agreement of 28th June, 1902, known as the Complementary Agreement, and the fourth paragraph thereof, it is provided that the works therein described and hereinafter specified, namely:

(g) The conduits or pipes to carry the water supply through the Park, including the method of concealing or covering over the same, and the method of syphoning under the lower channel at the Dufferin Islands;

(h) The works and structures for regulating the flow of water at the penstock chambers;

(j) The power house and the means of access thereto, including the filling out into the lower river in front thereof, shall, before being commenced, be submitted by the Company to the Commissioners, accompanied by suitable plans, profiles, specifications and elevations, as the case may be, for approval;

And Whereas, the Company has submitted to the Commissioners certain plans, namely: that hereunto annexed marked "D," and described to be "map showing proposed works of the Ontario Power Company of Niagara Falls in Queen Victoria Niagara Falls Park, location of pipe lines dated 15th January, 1903," and duly identified by the parties to this Agreement; and also another plan, correlative or relating to the above, plan, marked "D," duly identified by the signature of O. B. Suhr, Resident Engineer, such plan being entitled "profile of No. 1 Conduit from Sta. 10 to Sta. 63," and showing certain profiles, specifications and elevations, in so far as they purport to be in accordance with the plans by said paragraph four, required to denote the location of the said works above described, and as required by sections g, h and j of paragraph four of the Agreement of 28th June, 1902, and have proposed the said plans for approval;

And Whereas, the said plans propose the occupation by the Company of additional land, to the land heretofore licensed or intended to be licensed, as defined and laid down on plan lettered "B," and annexed to the Supplementary Agreement of 15th August, 1901, or as defined and laid down on plan lettered "C" and annexed to the Complementary Agreement of 28th June, 1902; and the Company have applied to the Commissioners for a further grant or extension of rights, and the Commissioners for certain considerations, and upon the conditions hereinafter expressed and contained or intended so to be, have agreed to grant or extend the rights of occupation to the said additional land, as described in the plan hereto annexed and marked "D," as above described, to be used in and for the construction of works and the exercise of powers by the Company within the Park for such land, including the right to pull down the Museum Building, or Dufferin Cafe, and occupy part of the site thereof for the purpose of construction and operation of their works, to be held under the same tenure and subject to the same provisions, stipulations, conditions and agreements as have been entered into in respect of lands licensed, granted, occupied, or to be occupied by the Company, by the hereinbefore recited Agreements or any of them;

For convenience this Agreement may be known as "the Pipe Line and Power House Agreement."

1. Now, therefore, this Agreement witnesseth that for and in consideration of the matters following:—

(a) The payment by the Company to the Commissioners of the sum of twenty thousand dollars at the time of the sealing these presents by the several parties thereto, the payment whereof is here acknowledged.

(b) That the Company will construct a shaft with an elevator at or near the south face of Table Rock House, so that the outside circumference of the shaft nearest the Table Rock House shall be five feet from the south face of the south wall of the said Table Rock House, and will construct tunnel work from the foot of the said shaft to a point under the main or Horseshoe Falls, with a second separate outlet, as shown on a map or plan in possession of the Commissioners of the Queen Victoria Niagara Falls Park, identified by the signature of James Wilson, the Superintendent of the

Park; the said tunnel and shaft to be constructed in accordance with specifications thereof to be prepared by the Commissioners;

(c) The said tunnel is to be of same dimensions as those of the present tunnel under the Cliff to and under the Falls, as now used by the present lessees of the Commissioners.

(d) The said shaft and elevator are to be constructed so that the said elevator may be run to the eaves of the south gable of the said Table Rock House, and openings shall be constructed into the said elevator from each floor of Table Rock House. The cage of the said elevator is to be at least five feet square.

(e) The Company are to adapt the said elevator for operation by electric motive power.

(f) The Company shall furnish or cause to be furnished to the lessees of the Commissioners during the period of ten years the electric motive power necessary for the operation of the said elevator.

(g) The work of constructing the said shaft and tunnel with the said elevator shall be completed, and the motive power thereof furnished, so that the lessees, as aforesaid, may have the free and full use thereof for the purpose of their business on or before the eighth day of June, 1903.

(h) The work adjacent to Table Rock House shall in any case be so far completed as to permit the occupation thereof by the lessees for the purpose of their business by the eighth day of June, 1903; and should the whole of the tunnel work not then be completed the lessees are to be permitted by the Commissioners the use of the present elevator, and a path shall be constructed, by the Company, connecting the southerly extremity of the present tunnel through the second outlet of the new tunnel, with the southern extremity of the new tunnel behind the main or Horseshoe Falls, which the lessees shall be permitted to use till the new work be completed.

(i) During the time herein provided for the construction of the said shaft and tunnel with the said elevator, full possession of the Table Rock House shall be given to the Company, so far as such possession may be necessary to such work.

(j) The Company are to make good all work in connection with the openings between the floors of Table Rock House and the elevator and any damage resulting from the work of construction of said shaft and elevator.

(k) On the first day of October, 1903, the lessees of the Museum Building, known also as the Dufferin Cafe, having vacated such portions thereof as they have hitherto occupied, the Company shall at their own cost pull down the same and every part of the said Museum Building, and place the materials adjacent or near to the site of the projected Refectory as shall be required by the Commissioners, who shall retain their property in the said materials, and the residue of the said materials shall be removed by the Company as to the Commissioners shall seem fit.

2. And these presents further witness that for and in consideration of the due observance and performance by the Company of the terms, conditions, covenants and stipulations by the Company hereinbefore stated, and agreed by the Company to be duly done and performed, the Commissioners hereby grant to the Company in the same terms, including stipulations relating to the renewal of any term, and subject to the same requirements and limitations and for the same period or term as contained in the first paragraph of the hereinbefore recited agreement, dated 28th of June, 1902, and known as the Complementary Agreement, the right to extend in the manner and to the extent indicated on the said map "D" the pipes or conduits which by the terms of the aforesaid Complementary Agreement the Company are authorized to construct, and by the means of which the waters taken from the Niagara or Welland Rivers, or both of them, may be used for the purpose of supplying electric or other power in the power house of the

Company, as located in the gorge below the Falls; and the Commissioners grant the further right to the Company to extend the power house in the manner and to the extent shown by dotted lines on the said map, together with the privilege of leading the water supply from the pipes or conduits, extended as above described to the site of the power house by means of penstocks carried down in shafts or tunnels cut in the rock.

The location of the overflow or regulating device for the pipe No. 1, as indicated on the map "D," is approved by the Commissioners but the design and method of constructing the same and the location and design of the overflows for pipes Nos. 2 and 3 shall be submitted for the approval of the Commissioners, and shall not be proceeded with until such approval is obtained.

3. The Commissioners also grant to the Company the right, on and after the first day of October next, to enter into and upon the Museum Building or Dufferin Cafe, and pull down the same and thereafter occupy so much of the site thereof for the purposes of construction and operation of works as hereinbefore provided, and as shown in the said plan marked "D."

4. The license hereby granted shall take effect and operate from the day at which these presents shall have force and effect under paragraph 8 hereof; and for the sake of uniformity in termination of periods with the provisions of the above in part recited Agreements previously made by and between the parties hereto shall, unless extended by stipulations relating to renewal of any term, terminate on the first day of April, 1950, unless terminated by operation of law or by any provision in this or any of the above recited Agreements contained.

5. The terms, conditions, covenants and stipulations contained in the several hereinbefore recited Agreements (save all such as are contained in the Ancillary Agreement, the same being abrogated as provided by paragraph 7 of these presents), shall apply to this Agreement as fully as though the rights hereby conferred upon the Company, and the terms conditions, covenants and stipulations hereby agreed to be done, observed and performed by the Company had formed part and parcel of the above recited agreements, or any of them; the Commissioners on their part confirming all previous grants and rights and licenses by them upon the Company conferred by the said Agreements, or any of them, and hereby giving and granting to the Company the rights to construct within the Park the works authorized by the Commissioners, by this or any of the above recited Agreements to construct within the Park; and also the right to exercise the powers given to construct the works necessary to lead the waters of the Niagara and Welland Rivers, whether within or without the Park, for the purposes of developing electric or other power within the Park, by or under the said in part recited Statutes or any of them;

Provided that no such works or powers shall extend further to the north than located on the plan marked "D" to these presents annexed.

6. The provisions of paragraph 8 of the Supplementary Agreement of 15th August, 1901, shall apply, in addition to the generality of the application of the said paragraph 8, to the hereinbefore recited Agreements and to this Agreement, in the event of the Commissioners being called upon to pay or to meet:—

(a) Any claim for liability by the failure or breach by the Company duly fulfilling and completing the works by the Company above undertaken to be performed, according to the provisions of b c, d, e, f, g, h and j of paragraph 1 of this Agreement, or either, or of any of the said sub-divisions;

(b) Or any claim preferred against the Commissioners by reason of any damages sustained by any person in respect of any act of omission or commission by the Company, in respect of the doing or executing of the works above specified;

7. And Whereas, by the Ancillary Agreement made by and between the parties hereto on the 15th day of August, 1901, whereby it was agreed that in the event of the Table Rock House having to be removed or interfered with, the cost, charges and compensation to be paid, attendant or in consequence of such removal or interference, should be borne by the parties hereto in the manner in said Agreement, provided: These presents witness that the parties hereto release each other from all the provisions of the said Agreement, and the same is now determined, and of no more import than had the same never existed or been entered into.

8. This Agreement shall have no force or effect until approved by the Lieutenant-Governor-in-Council.

In witness whereof the corporate seal of the Commissioners has been hereunto affixed by their Chairman who has also signed these presents in certification of due execution hereof by the Commissioners, and corporate seal of the Company has been hereunto affixed by the President, who has also signed these presents in certification of due execution hereof by the Company, and on the day and year first aforesaid.

THE ONTARIO POWER COMPANY OF NIAGARA FALLS.

(Seal) By J. A. ARCHIBALD, Vice-President.

ROBT. C. BOARD,
Secretary.

Witness: James Wilson.

J. W. LANGMUIR, Chairman of the Commissioners, Queen Victoria Niagara
(Seal) Falls Park.

Witness: James Wilson.

RESOLUTION OF THE BOARD OF DIRECTORS OF THE ONTARIO POWER COMPANY OF NIAGARA FALLS.

At a meeting of the Board of Directors of the Ontario Power Company of Niagara Falls, held at Buffalo, New York, on the third day of March, 1903, the proposed Pipe Line and Power House Agreement between the Commissioners of the Queen Victoria Niagara Falls Park and the Ontario Power Company of Niagara Falls was produced and read, and on motion duly seconded it was unanimously

Resolved, that the said Pipe Line and Power House Agreement between the Commissioners of the Queen Victoria Niagara Falls Park, acting therein in their own behalf, and with the approval of the Government of the Province of Ontario, and the Ontario Power Company of Niagara Falls, submitted to this meeting, be and the same is hereby approved and adopted, and Mr. J. A. Archibald, the Vice-President, and Mr. Robert C. Board, the Secretary of the Company, be and they are hereby authorized and directed to execute the same on behalf of this Company, in triplicate by affixing the corporate seal of this Company thereto and by signing the same as such Vice-President and Secretary.

And that when so executed said officers are authorized empowered and directed to make delivery thereof as the act and deed of this Company, and that the said agreement be entered in full on the minutes of this meeting, which is accordingly done below.

I, Robert C. Board, Secretary of the Ontario Power Company of Niagara Falls, hereby certify that the foregoing resolution is a true copy of the resolution passed at a meeting of the Board of Directors of the said Company, held at the office of the Company, in the city of Buffalo, this third day of March, 1903.

(Seal)

ROBERT C. BOARD,

COPY OF AN ORDER-IN-COUNCIL APPROVED BY HIS HONOR THE
LIEUTENANT GOVERNOR, THE 6TH DAY OF MARCH, A.D., 1903.

Referring to the Order-in-Council of 7th August, 1902 whereby the agreement between the Commissioners of the Queen Victoria Niagara Falls Park and the Ontario Power Company of Niagara Falls, dated 28th June, 1902, and known as the Complementary Agreement, was approved by your Honor;

And referring to the Order-in-Council of 15th August, 1902, whereby a certain other Agreement between the said parties, dated 28th June, 1902, extending the terms of a certain agreement known as the Ancillary Agreement, dated 15th August, 1901, made between the said parties and relating to the Table Rock House, was approved by your Honor;

And referring to two agreements now submitted by the Commissioners to your Honor for approval; first between the Commissioners for the Queen Victoria Niagara Falls Park and the Ontario Power Company of Niagara Falls, bearing date 28th February, 1903, whereby the location of the pipe lines and power house, as by said agreement and the plans relating thereto is set forth, has been determined, and it appearing that the said locations will encroach upon the sites of the Museum Building, and effect certain privileges within the Park held under terms of demise by the Commissioners to lessees for a term unexpired;

Second, and to an agreement made between the Commissioners and their lessees, bearing date 14th February, 1903, with memorandum attached of 27th February, 1903, whereby it is agreed that the requirements of the Company in respect of the afore-said locations have been obtained from the lessees in consideration of certain works to be done and a Refectory to be built by the Commissioners within the Park, to be held in substitution of the rights by the lessees surrendered; and whereby it is also provided that such being done a new lease will be granted to the lessees, to expire on 1st May, 1913;

And by the above in part recited agreement of 28th February, 1903, the Company have among other matters agreed to do and perform the above works to be done for the said lessees, and the Commissioners having received from the Company the sum of Twenty Thousand Dollars to enable them to build the said Refectory, and both parties to the said Agreement have also agreed that the provisions of the Ancillary Agreement of 15th August, 1901, are determined and ended;

And the Commissioners recommend for approval by your Honor the said several Agreements of 28th February, 1903, and of 14th February, with memorandum of 27th February, 1903, with the terms and conditions therein contained;

Upon the recommendation of the Honorable the Treasurer, the Committee of Council advise that the above-mentioned Agreements of 28th February, 1903, and of 14th February, with memorandum attached of 27th February, 1903, be approved by your Honor;

Such approval being given under the provisions of the Revised Statute respecting the Queen Victoria Niagara Falls Park, section 12, in so far as the same relates to the removal of buildings within the Park, and of the Ontario Statute of 1899, Chapter 11, section 36, in so far as the same relates to the terms and conditions thereby authorized to be approval.

Certified,

Assistant Clerk, Executive Council.
J. LONSDALE CAPREOL,

AGREEMENT

The Commissioners of the Queen Victoria Niagara Falls Park and Messrs. Lybech and Brundage.

Memorandum of Agreement made this fourteenth day of February, A.D., 1903:

Between the Commissioners of the Queen Victoria Niagara Falls Park, hereinafter called the "Commissioners" of the first part, and John Zybach, of the town of Niagara Falls, photographic artist, and James T. Brundage, of the City of Niagara Falls, New York, U.S., gentleman, hereinafter called the "Lessees" of the second part.

Whereas, by a certain indenture made the sixth day of June, A.D., 1893, between the said Commissioners and the said Lessees, the said Commissioners demised and leased unto the said Lessees, their executors, administrators and assigns all those messuages or tenements situate in the Town of Niagara Falls within the Queen Victoria Niagara Falls Park, known as the Table Rock House, and all the building known as the Museum Building, except the rear wing thereof, together with certain rights and privileges in the said indenture specified, but subject to the conditions and stipulations of the said indenture, for the term of ten years, to be computed from the first day of June, A.D., 1893.

And whereas, in and by the said indenture it was agreed between the said Commissioners and the said lessees that if the said Lessees should have duly performed the covenants in the said indenture on their part to be performed, they should at the expiration of the said term of ten years have the right to have the said indenture by way of lease extended for a second period of ten years on the same terms, stipulations and provisions as those contained in the said indenture, save as to the amount of rent to be paid by them to the said Commissioners, the amount whereof it was provided by the said indenture should be determined in the manner therein provided.

And whereas, the Lessees, desiring to exercise the said right of extension for the said further period of ten years, gave due notice in writing of such desire, as provided by the terms of the said indenture, at least six months before the expiration of the period of ten years demised by the said indenture.

And whereas, the said Commissioners and the said Lessees have agreed upon the amount of rent to be paid by the said Lessee to the said Commissioners for and during the said extended period of ten years at the sum of nine thousand dollars per annum, payable quarterly in advance during the said period of ten years on the first days of the months of June, September, December and March in each and every year.

And whereas, by reason of certain agreements between the said Commissioners and the Ontario Power Company, the said Commissioners have proposed to the said Lessees to substitute for certain of the works and buildings as herein provided, to which substitution the said Lessees have assented, subject, however, to the terms and conditions of this agreement.

Now this Agreement witnesseth that the said Commissioners and the said Lessees covenant and agree each with the other of them in the manner following, that is to say:

1. Immediately after the signing of this agreement, the Commissioners shall construct, or procure to be constructed, a shaft, with an elevator, at the south face of Table Rock House, and shall construct, or procure to be constructed, tunnel work from the foot of the said shaft to a point under the main or Horseshoe Falls, with a second separate

outlet, as shown on the annexed sketch. The said tunnel is to be of the same dimensions as those of the present tunnel to and under the Falls now used by the Lessees under the said indenture of sixth June, 1893. The said shaft and elevator are to be so constructed that the said elevator may run to the eaves of the south gable of the said Table Rock House, and openings shall be constructed into the said elevator from each floor of the Table Rock House. The cage of the said elevator is to be at least five feet square.

2. The Commissioners are to adapt the said elevator for operation by either electric or hydraulic motive power, as the said Lessees may elect; such election to be to the Commissioners within one week from the execution hereof.

3. The Commissioners shall furnish, or procure to be furnished, to the Lessees during the said period of ten years, the motive power necessary for the operation of the said elevator.

4. Inasmuch as the months of June, July, August and September are the months in the year during which the Lessees require to have their premises fully equipped for the purposes of the business carried on by them, the work of constructing the said shaft and tunnel, with the said elevator, shall be commenced immediately, and pushed to completion as rapidly as possible, it being the intention to complete the same by the first day of June, 1903. The work adjacent to Table Rock House shall in any case be so far completed as to permit the occupation thereof by the Lessees for the purpose of their business by the said first day of June, 1903, and should the whole of the tunnel work not be then completed, the Lessees are permitted to continue the use of the present elevator, and a path shall be constructed by the Commissioners connecting the southern extremity of the present tunnel through the second outlet of the new tunnel with the southern extremity of the new tunnel behind the main or Horseshoe Fall, which the Lessees shall be permitted to use till the new work shall be completed.

5. The said Lessees shall remove from the Table Rock House during the time herein provided for the construction of the said shaft and tunnel with the said elevator, so that the said Commissioners may be in full possession thereof during the work of such construction so far as such possession may be necessary to such work. The said Commissioners are to make good all the work in connection with openings between the floors of the Table Rock House and the elevator, and any damage to the building resulting from the work of construction of said shaft and elevator.

6. The said Lessees are not entitled, save as hereinafter provided, to any further possession of the present Museum Building during the extended term hereby provided for. Instead thereof the said Commissioners covenant to erect or procure to be erected a new building, known as the Refectory Building, in which building the said Commissioners shall provide such accommodation as shall be suitable and sufficient for the business of the Lessees heretofore carried on in the said Museum Building as the Commissioners and the Lessees may agree.

7. It is agreed that the business above referred to as heretofore carried on by the Lessees in the said present Museum Building is the restaurant business of photography, and a fancy goods business.

8. The Lessees are to have the right to continue to occupy the present Museum Building up to the first day of October, A.D., 1903, but on or before that date the Lessees shall and will vacate the same, the said Commissioners providing, during the erection of the said Refectory Building, suitable storage accommodation for the furniture of the Lessees now in the Museum Building, and suitable accommodation for the business of printing and washing photographs.

9. Inasmuch as the months of June, July, August and September are the months in the year during which the Lessees require to have their premises fully equipped for the purpose of the business carried on by them, the work of constructing the said Re-

fectory Building shall be pushed to completion as rapidly as possible, with the view of having the same made ready for the accommodation of the business of the said Lessees, as aforesaid, and for free and full use thereof by the said Lessees, on or before the first day of June, A.D., 1904. Twenty-five dollars per day shall be allowed by way of reduction from the rental for every day's delay beyond the said first of June, 1904, which it is agreed shall be deemed liquidated damages, and not in the nature of a penalty.

10. When the said Refectory Building shall have been completed as aforesaid, and the Lessees shall have been put into full possession of the accommodation to be provided for them therein as aforesaid, a lease prepared in pursuance of the Act Respecting Short Forms of Leases from the said Commissioners to the said Lessees, of the premises demised by the said indenture of the sixth June, A.D., 1903, as modified by the present agreement, shall be executed for the said extended term of ten years from the first day of June, A.D., 1903, and the said lease shall contain all the provisions of the said indenture of sixth June, 1893, applicable to the altered premises, applying to such portions thereof as are substituted by this agreement for portions of the premises demised by the said indenture the terms, conditions, covenants and stipulations made by the indenture with respect to the portions of the said demised premises for which this agreement makes such substitution, save and except the provisions therein made for the renewal.

11. The said lease shall make the rights of the lessees in respect to the premises as modified by the terms of this agreement exclusive for the said term of ten years in the same manner, and to the same extent as the said rights of the Lessees were made exclusive by the said indenture.

12. The proposed removal by the Commissioners of the drive shed from its present location about fifty yards distant to a proposed location is assented to by the Lessees, the Commissioners not admitting that such assent is necessary.

13. And the said Lessees hereby release and discharge the said Commissioners from any claim or claims for damages hitherto caused them by the operation of any power company doing works of construction under the license of the said Commissioners, reserving, however, all their rights against any such company or companies in respect of any damage or injury caused them, the said Lessees, by the operations of such company or companies, in so far as such operations were not justified under such license.

In witness whereof the parties of the second part have hereunto set their respective hands and seals, and the parties of the first part have affixed their corporate seal, and J. W. Langmuir, one of the Commissioners, hath set his hand.

Signed, sealed and delivered in the presence of:

(Sgd)	James Wilson.	(Sgd.)	J. ZYBACH,	(Seal)
(Sgd.)	John Young Reid.		J. T. BRUNDAGE,	(Seal)
			(by his attorney, J. Zybach.)	

As executed by J. W. Langmuir.

(Sgd.) J. W. LANGMUIR. (Seal)
Chairman.

Memorandum made at the time of the sealing and delivery of the within Agreement:
It is agreed by and between the parties hereto

1. That the shaft provided for by the paragraph one of the agreement may be constructed so that the outside circumference thereof nearest the Table Rock House shall be five feet from the south face of the south wall of the Table Rock House.

2. And that the eighth day of June shall be substituted for the first day of June in both places where it occurs in paragraph four of the said Agreement.

3. In all other respects the provisions of the Agreement are to stand.

In witness whereof the parties of the second part have hereunto set their respective hands and seals, and the parties of the first part have affixed their corporate seal, and the Chairman of the Commissioners on this twenty-seventh day of February, 1903, hath set his hand.

Signed, Sealed and Delivered in the presence of

(Sgd.) James Wilson.

(Sgd.)

J. ZYBACH,

(Seal)

(Sgd.) John Young Reid.

(Sgd.)

J. T. BRUNDAGE,

(Seal)

(By his attorney, J. Zybach.)

(Sgd.)

J. W. LANGMUIR,

(Seal)

Chairman.

AGREEMENT AND DEED.

The Commissioners of the Queen Victoria Niagara Falls Park, and the Canadian Shipbuilding Company, Limited.

This deed, made the thirtieth day of December, in the year One Thousand, Nine Hundred and Three, between His Majesty King Edward the Seventh, of the first part, and the Canadian Shipbuilding Company, Limited, a corporation duly formed under the laws of the Legislature of Ontario, and hereinafter called the Company, of the second part; and the Commissioners for the Queen Victoria Niagara Falls Park, acting herein on their own behalf as well as on behalf and with the approval of the Government of the Province of Ontario, and hereinafter called the Commissioners of the third part.

Whereas the Company have applied to the Lieutenant-Governor of Ontario-in-Council for certain water lots, or lands covered with water, the property of the Crown, being the foreshores and bed of the River Niagara, containing 16 4-5 acres, and lying in front of part of lot No. 9 in the Cross concession, and part of lots No. 13 and 14 in the Fifth concession, Niagara River, in the Township of Bertie, in the County of Welland, as hereinafter more particularly described.

And the Company have also applied to the Commissioners for the grant of those pieces or strips of land lying between those portions of the lots above mentioned (namely, in front of part of lot No. 9 in the Cross concession, and part of lots numbered 13 and 14 in the Fifth concession, Niagara River, in the said Township of Bertie), and the water's edge of the River Niagara, over which, or part of which, exists a highway; the Company representing that they are the absolute proprietors in fee simple of the said lands, part of lot No. 9 and part of lots Nos. 13 and 14 above mentioned, such last-mentioned lands so held and owned by the Company being shown upon the plan hereto attached, and marked "Lands of the Canadian Shipbuilding Company, Limited"; and that the Company have in view the establishment and development of extensive commercial works on the lands of which they are now proprietors, and by means of the lands for which they now make application.

And whereas by an Act of the Legislature of Ontario, held at a session thereof in the year 1903, entitled "An Act providing for the construction of works of improvement along the bank of the Upper Niagara River," it is among other matters provided that in the event of the Government of Ontario at any time granting access over the bank of the Niagara River, or the highway on the said bank, or the railway to be built and operated at any time under the agreement as by the said Act intended to be made between the Commissioners with any Company or Companies, in pursuance of the powers and provisions in the said Act of the Legislature of Ontario contained, to the water lots along the bank, foreshores, or bed of the Niagara River, for commercial works or purposes, such grant shall be subject to such compensation to be paid to the Commissioners as the Lieutenant-Governor-in-Council may deem reasonable, and the construction by the applicants or grantees of such access, at their cost, of such works of restoration and maintenance thereof as the Lieutenant-Governor-in-Council shall deem to be adequate to continue and preserve the working of the railway to be built and operated at any time under the agreement to be made between the Commissioners and the Company or Companies as aforesaid, and also the free use of the highway, or such other highway or Companies as aforesaid, and also the free use of the highway, or such other highway constructed in substitution thereof to all persons using the same.

And whereas the Company have proposed that the line of railway to be built and operated, as hereinbefore recited, and in pursuance of the powers contained in the said

in part recited Act of the Legislature of Ontario, and also the highway along the bank as now existing, be placed to the southward and westward of the said existing highway, upon lands forming part of the lands hereinbefore described as of the property of the Company, and as laid down in the plan hereto annexed and marked on said plan as "Lands for railway or highway purposes to be opened in accordance with the deed annexed," and now and hereby to be conveyed to the Commissioners for railway and highway purposes for the public uses of the Province, in pursuance of the purposes and provisions in the said Act of the Legislature of Ontario contained, and the Company have further proposed that upon the said lands being duly conveyed and vested in the Commissioners for the public uses of the Province, and upon the proper formation, construction, and dedication of a highway, in manner hereinafter provided upon part of the said land so vested and conveyed as aforesaid, the existing highway upon the bank between the points in front of which said water lots are described as situate, be forever closed.

And whereas the Lieutenant-Governor-in-Council has considered the said application of the Company, and also the recommendation and suggestions of the Commissioners, has ordered as follows:

Copy of an Order-in-Council approved by His Honor the Lieutenant-Governor the Eleventh day of December, A.D., 1903.

The Committee of Council have had under consideration the annexed report of the Honorable the Premier, with reference to the application of the Canadian Shipbuilding Company, Limited, for a grant of certain water lots on the bank of the Upper Niagara River, and also of land on said bank now held and controlled by the Commissioners of the Queen Victoria Niagara Falls Park, and advise that the recommendation contained in the said report be concurred in and acted on.

Certified.

J. LONSDALE CAPREOL,
Asst. Clerk Executive Council.

To His Honor the Lieutenant-Governor:

The undersigned has had under consideration the application of the Canadian Shipbuilding Company, Limited, for a grant of a certain waterlots on the bank of the Upper Niagara River, and also of land on said bank now held and controlled by the Commissioners of the Queen Victoria Niagara Falls Park, and begs to report as follows:—

It is represented by the Canadian Shipbuilding Company, Limited, that it is the owner in fee simple of land in the Township of Bertie, in the County of Welland, near the bank of the Niagara River, to the extent of about 106 acres being composed of part of lot No. 9 in the Cross concession, and part of lots 12, 13 and 14, in the Fifth concession of the said township; and that it has acquired the said land with the object of establishing and carrying on the business of shipbuilders, and that access to the River Niagara is required for launching and docking vessels, and other commercial purposes connected with the shipbuilding industry.

It is further represented by the said Shipbuilding Company, Limited, that in order to obtain access to the river it is necessary that the said Company should be licensed to extend its works upon and across the public highway situate on the river bank, including the lands vested in the Commissioners of the Queen Victoria Niagara Falls Park, in front of the lands acquired and controlled by the Company, and of which the Company is the owner in fee as above stated, and also to utilize the water lots and foreshores of the river now belonging to the Province of Ontario, which may be described as follows:—

The water lots of the lands covered with water in front of the said lots 9, 13 and 14, beginning at a point at the water's edge of the Niagara River at a distance of 30

feet northerly and easterly from a line produced to the water's edge of the easterly limit of the land sold to the Canadian Shipbuilding Company, Limited, by Henry O'Brian, and then extending northerly and easterly down the stream to a point at the water's edge, where a line produced from the southerly edge of the Ridge Road would meet the same, according to plan made in triplicate by an Ontario Land Surveyor, of the said water lots, and filed in the Department of Crown Lands, the whole of which water lots or lands contain 16 4-5 acres, more or less.

It further appears that the Commissioners of the Queen Victoria Niagara Falls Park have represented that works for shipbuilding purposes at the locality indicated would be of general advantage, and have approved of a map or plan, subject to the approval of Your Honor in Council, whereby the objects in view may be secured by a change made in the highway on the river bank, without inconvenience to public use and without interference with the construction and operation of an electric railway along the river bank;

It further appears that at the recent session of the Legislature, an Act was passed (Chapter 6 of 3rd Edward VII.) providing for the construction of works of improvement along the bank of the Upper Niagara River, and that under the said Act certain powers with regard to the matters aforesaid, were conferred upon the Lieutenant-Governor-in-Council.

In view of the above the undersigned respectfully recommend as follows:—That for the object and purpose of establishing and carrying on the business of shipbuilders (as above recited, and on the same lands and premises of the Company held in fee simple as above described), the Commissioners of Crown Lands as representing His Majesty the King, do grant to the Canadian Shipbuilding Company, Limited, a license subject to the conditions hereinafter limited and contained, and revocable only on non-observance of or non-compliance with the provisions of such conditions or of any of them, to enter, take, use and occupy the above described water lots, or the lands covered with water, containing 16 4-5 acres, more or less;

And that for the object and purpose aforesaid the Commissioners of the Queen Victoria Niagara Falls Park do grant to the Canadian Shipbuilding Company, Limited, a license, subject to the conditions hereinafter limited and contained, and revocable only on non-observance of or non-compliance with such conditions, for the use and occupation of the lands lying between the lands of which the said Canadian Shipbuilding Company, Limited, is now the owner in fee as above recited, and the above described water lots or lands covered with water, containing 16 4-5 acres, more or less; Provided also that such grants are not to be construed as expressing or implying any covenants by His Majesty the King or the Commissioners for the title or quiet possession.

The said water lots and lands, which are the subject of the said licenses from the Crown, either by the Commissioner of Crown Lands or the Commissioners of the Queen Victoria Niagara Falls Park, may be applied to and for the purposes, businesses and uses connected with shipbuilding business; but said lands shall not be used for commercial purposes or as a shipping port, nor for the erection of elevators, but shall be restricted to such purposes as are necessary for the landing, receiving and storage of raw materials, coal, ores and the likes, necessarily required for use on the works erected or to be erected for shipbuilding purposes, on the lands now held in fee simple by the Company as hereinafter described.

Under the expression "shipbuilding purposes" shall be included other works, such as foundry or engine works, or blast furnaces, shipping, warehousing, as well as the manufacture of all or any articles, goods or materials used in whole or in part in or in connection with the business aforesaid, to be erected on the lands held by the Company in fee as aforesaid, but no such other works as last above mentioned are to be erected on the water lots or lands, or the intervening strip of land vested in the Commissioners, the subject of the said licenses as aforesaid.

The grant by way of license as aforesaid to the Canadian Shipbuilding Company, Limited, of the said water lots or lands covered with water, containing 16 4-5 acres of land, more or less, as also the lands granted by the Commissioners, is conditional upon the carrying out and in compliance with the terms and conditions following:

1. The Company, with the consent and approval of the Commissioners of the Queen Victoria Niagara Falls Park and the Commissioner of Crown Lands, having in view the grant of the licenses herein referred to, has commenced upon the lands hereinbefore described as now held by the Company in fee simple, the erection of shipbuilding works and the installation of the machinery, necessary for the same, and shall, on or before the first day of September, 1904, actually expend, or have expended, not less than two hundred thousand dollars on such works and machinery.

In the event of any difference as to the amount of the expenditure in works and machinery, incurred by the Company, such difference shall be determined by the Commissioner of Public Works for Ontario, before whom, whenever required, the Company shall submit their books of account for examination.

2. That the sum of five hundred dollars for each and every year during the occupation by the Company of the lands, be paid by the Company to the Commissioner of Crown Lands, at the office of the Department, Parliament Buildings, Toronto, in advance, as the annual license fee for the occupation, subject to the aforesaid conditions, terms and limitations of the said 16 4-5 acres; the first payment to be made on the first day of January, 1904, and to continue to be payable on every first day of January thereafter.

3. That neither the Company nor any assignee or person or Company claiming under the said Shipbuilding Company shall use the said water lots and lands which are the subject of the said licenses from the Crown, as represented either by the Commissioner of Crown Lands, or the Commissioners of the Queen Victoria Niagara Falls Park, for the purposes other than as hereinbefore provided.

4. That the Company shall not assign, separately or as separate tenements, the water lots and lands which are the subject of the said licenses by the Crown or by the Commissioners, without the permission of the Lieutenant-Governor-in-Council; nor shall the same or any part thereof be transferable or assignable by operation of law as against the Company.

Such permission shall extend only to the permission actually given, or to the actual assignment thereby specifically authorized to be done, but not so as to prevent a proceeding for any subsequent breach in respect of other lands which are the subject of such licenses by the Crown not included in such permission, and all rights under covenants and powers of forfeiture and re-entry in the licenses contained shall remain in full force and virtue as if no such permission had been given;

But this restriction on the power or incidence of assignment shall not apply to lands as now held by the Company in fee simple nor to an assignment of the water lots and lands which are the subject of the said licenses if and when assigned in connection with the lands now held by the company in fee simple, or such parts thereof as may be used by the Company for shipbuilding purposes, in case the said water lots and lands which are the subject of the said licenses are sold with such of the lands which may then be owned, held and used by the Company in fee simple, are sold as one property used for and as the shipbuilding property.

In respect of the said conditions numbered 1, 2, 3 and 4, it is hereby declared that if the Shipbuilding Company, Limited, has, in respect of any of the works to be done, failed in constructing or proceeding therewith, as provided in Condition No. 1, or has failed to pay the annual license fee as provided in Condition No. 2, or if the Company should at any time continuously neglect for the space of three years, and fail to carry

on the shipbuilding business as such business is hereinbefore expressed to mean, on the lands and premises held by the Company in fee as aforesaid, or should the Company at any time fail to observe and keep the provisions of and contained in the conditions numbered 3 and 4, or disregard any of the four foregoing provisions or conditions, then the Lieutenant-Governor-in-Council, on notice to the said shipbuilding Company, and after hearing, may forfeit all right, claim or demand, of or to any of the said lands the subject of the grant by way of license, as hereinbefore provided; and His Majesty the King may re-enter thereon, as of his former estate, without let, suit or hindrance by the Company, or any one claiming thereunder;

The Lieutenant-Governor-in-Council may nevertheless relieve against any forfeiture deemed to have been incurred, and the waiving by the Lieutenant-Governor-in-Council of any forfeiture, or of any matter or thing deemed to have been a forfeiture, shall not affect the right of the Lieutenant-Governor-in-Council to revive such forfeiture in case any condition on which it was waived is broken, or to again declare a forfeiture in respect of the same matter, or to declare a forfeiture in respect of the other matters at any subsequent time or times.

Subject to any general or special Act of the Legislature of the Province of Ontario applicable to the said Shipbuilding Company, it is further declared that upon the said conditions numbered 1, 2, 3 and 4 being complied with by the said Shipbuilding Company, in respect of the matters whereof there has been forfeiture or failure to observe such conditions as the Lieutenant-Governor-in-Council shall have deemed to be forfeiture or failure, and upon the Company giving such security as the Lieutenant-Governor-in-Council may require, to secure the due performance by the Company of the conditions numbered 1, 2, 3 and 4, then the whole of the said lands shall be vested, by way of license, as hereinbefore provided; and any other securities satisfactory to the Government may, from time to time, be substituted for the security so given by the said Shipbuilding Company.

That the grant of the Commissioners of the Queen Victoria Niagara Falls Park to the Canadian Shipbuilding Company, Limited, of the aforesaid lands by way of license, as hereinbefore contained, shall, for the enjoyment thereof by the Company, be co-extensive with and depend upon the conditions, terms and limitations which affect the said water lots, or land covered by water, containing 16 4-5 acres, be the same more or less, as hereinbefore set forth, so that if the said Shipbuilding Company incur forfeiture or having incurred forfeiture in respect of the said lands or water lots, of 16 4-5 acres, or so often as there may be forfeiture or relief, obtain relief as hereinbefore provided, the holding of the said Shipbuilding Company, Limited, under the grant by the Commissioners shall be similarly affected.

That the Commissioners of the Queen Victoria Niagara Falls Park be paid by the said Shipbuilding Company the sum of one dollar annually, the first payment whereof to be on the first day of January, 1904, as the license fee for the occupation, subject to the aforesaid conditions, for the soil of the highway and river bank aforesaid between the lands aforesaid of the Canadian Shipbuilding Company, Limited, and the said water lots or lands covered with water, containing 16 4-5 acres, more or less, as hereinbefore described;

That the lands shown upon the plan produced as marked for railway or highway purposes be conveyed by the Canadian Shipbuilding Company, Limited, to the Commissioners of the Queen Victoria Niagara Falls Park, with usual covenants for title as and for the public uses of the Province;

That the Canadian Shipbuilding Company, Limited, do forthwith open, form and construct the highway upon the said land in the preceding paragraph described, on a location to be determined by the Commissioner of Public Works for Ontario, in

accordance with the specifications contained in the aforesaid Act of the Legislature of Ontario above cited, and that the Canadian Shipbuilding Company, Limited, covenant for themselves and their assigns, owners of lands out of which the land for the said Highway has been taken, to duly maintain and keep in repair the said Highway, the efficiency and sufficiency of said repair to be such as the Commissioner of Public Works of Ontario may at any time require and order :

That the said Highway when opened and formed and constructed on the said land, and as soon as the same shall have been declared by the Commissioner of Public Works as formed and constructed to his satisfaction, shall then be deemed to be the Highway by the said Act of the Legislature cited, as constructed in substitution for the Highway on the River Bank, between the points opposite the limits of the said water lots hereby authorized to be licensed, and thereupon the Highway previously existing on the River Bank between the said points shall be forever closed.

Respectfully submitted,

G. W. ROSS.

Now therefore this deed witnesseth that for and in consideration of the matters hereinbefore set forth, and the due observance and fulfilment by the Company of the terms, conditions, stipulations, promises and provisoes hereinbefore recited as set forth in the report of the Honourable G. W. Ross, Premier of the Executive Council of Ontario, the said report being concurred in and acted on by the Lieutenant Governor in Council, the said report and order being hereinbefore recited and set forth ; His Majesty the King acting herein by the Commissioner of Crown Lands for Ontario doth grant to the Company and its assigns a license as in and by the said Order in Council limited and provided, and being hereby declared to be in accordance with said Order in Council, to enter, take, use and occupy the water lots on lands covered with water in front of the said lots 9, 13 and 14, beginning at a point at the waters' edge of the Niagara river at a distance of 80 feet northerly and easterly from a line produced to the waters' edge of the easterly limit of the land sold to the Canadian Shipbuilding Company, Limited, by Henry O'Brian, and then extending northerly and easterly down the stream to a point at the waters' edge where a line produced from the southerly edge of the ridge road would meet the same according to a plan made in triplicate by an Ontario Land Surveyor of the said water lots, and filed in the Department of Crown Lands, the whole of which water lots or lands covered with water are shown on the plan hereto attached marked "Water Lots, area 16 4-5 acres," to have and to hold the same, subject to the conditions, obligations and stipulations and restrictions, and with the benefits, rights and advantages provided for and contained in the hereinbefore recited order of the Lieutenant Governor in Council concurring and acting on the hereinbefore recited Report of the Premier of the Executive Council of Ontario as forming part of the said order, as applicable to the license granted, in respect of and relating to the said water lots, or lands covered with water, containing 16 4-5 acres, more or less ;

And His Majesty doth further grant to the Company and its assigns in which grant the Commissioners do join as grantors, in consideration of the matters hereinbefore set forth and the due observance and fulfilments by the Company of the terms, conditions, stipulations, promises and provisoes hereinbefore recited and made applicable to such license to be granted by the Commissioners,—a license as in and by the said Order in Council, and the Report relating thereto, is limited and provided, to enter, take, use and occupy the lands lying between the lands of which the Company are now owners in fee as hereinbefore recited, and the above described water lots, or lands covered with water, containing 16 4-5 acres, more or less,—such lands so lying between the said parcels being marked and described on the map or plan hereto annexed as "River Road vested in the Commissioners of the Queen Victoria Niagara Falls Park to be closed

in accordance with the deed annexed." to have and to hold the same subject to the conditions, obligations, stipulations, and restrictions, and with the benefits, rights and advantages provided for and contained in the hereinbefore recited order of the Lieutenant Governor in Council concurring and acting on the hereinbefore recited Report of the Premier of the Executive Council of Ontario as forming part of the said order, as applicable to the licence granted in respect of the lands last mentioned and vested in the Commissioners as hereinbefore recited: And the Company for itself and its assigns doth hereby covenant with His Majesty the King and with the Commissioners jointly and severally, That for and notwithstanding the terms, conditions, stipulations, promises and provisoes hereinbefore contained and the rights of forfeiture in terms hereinbefore provided in respect of the said licenses to which the said rights of forfeiture are severally applicable, and not suffering or permitting any forfeiture thereunder to be varied or affected by this covenant; that the Company will duly observe and perform the obligation hereinbefore contained in the hereinbefore recited Order in Council and Report relating thereto, and numbered 1, 2, 3, and 4 as follows,—

1. That on or before the first day of September, 1904, actually expend or have expended not less than two hundred thousand dollars on such works and machinery as thereby specified.

2. That on the first day of January, 1904, and on every first day of January thereafter, during the occupancy by the Company, pay the sum of five hundred dollars to the Commissioner of Crown Lands at the office of the Department at the Parliament Buildings, Toronto, as the annual license fee for the occupation thereof as thereby specified.

3. That the water lots and lands described in the conditions shall not be used or permitted to be used by the Company or its assigns for purposes other than such as provided by the said conditions.

4. That, subject to the qualifying effects of the provision following said paragraph 4 as stated in the said Order in Council, the Company shall not assign separately or as separate tenements, the water lots and lands which are the subject of the said license by the Crown or by the Commissioners without the permission of the Lieutenant Governor in Council as by the said conditions specified, and also will in accordance with the provisions of the last paragraph but one of the said Report forming part of the said hereinbefore recited Order in Council, forthwith open, form and construct the highway, such work to be finished and completed within four months from the date of these presents; and also will maintain and keep in repair the said highway from time to time as by the said Order in Council and the Report forming part thereof, is provided, it being hereby declared that the maintenance and keeping in repair by the Company and its assigns of the said highway, is among the considerations which have induced the Commissioners to grant the license to the Company of the land marked and described on the map or plan hereto annexed as "River Road vested in the Commissioners of the Queen Victoria Niagara Falls Park to be closed in accordance with the deed annexed."

And this deed doth further witness that the Company doth hereby grant to the Commissioners, such grant to be in pursuance of the Act respecting Short Forms of Conveyances, that in consideration of one dollar of lawful money of Canada now paid by the Commissioners to the Company, the receipt whereof is hereby by the Commissioners acknowledged, the said Company doth grant unto the Commissioners in fee simple for the public uses of the Province, all and singular that certain parcel or tract of land and premises being parts of lots number 12, 13, and 14, Concession 5, Niagara River, in the Township of Bertie, in the County of Welland, as marked and laid down on the map or plan hereto annexed as "Lands for railway and highway purposes to be opened in accordance with the deed annexed," and may be described as follows,—

Commencing at a point in lot No. 14 at the intersection of southwestern limit of River Road with southeastern limit of Ridge Road.

Thence southwesterly along said limit of Ridge Road 1,190 feet, more or less, to a point.

Thence southeasterly diagonally across lots Nos. 13 and 14, 2,225 feet more or less, to a point on the easterly boundary of the land conveyed by Henry O'Brian on the sixth day of April, on thousand nine hundred and three to the Canadian Shipbuilding Company, Limited.

Thence north 17 degrees 30 minutes east along said boundary line 1,324 feet to southwestern limit of River Road.

Then northwesterly along the said River Road 83 feet, more or less, to a point distant 80 feet from the aforesaid boundary line.

Thence south 17 degrees 30 minutes west 1,060 feet to point of curve.

Thence on a curve to right on a radius of 110 feet, 210 feet to the point of tangent, distant 80 feet at right angles from aforesaid line running diagonally across lots No. 13 and 14.

Thence northwesterly parallel to aforesaid line running diagonally across lots Nos. 13 and 14, 1,809 feet to a point of curve.

Thence on a curve to right on radius of 110 feet 173 feet more or less, to point of tangent.

Thence at a distance of 40 feet from the Ridge Road and parallel thereto, northeasterly 995 feet, more or less, to the southwestern limit of River Road.

Thence northwesterly along the said River Road 40 feet, more or less, to place of beginning :

And the Company covenants with the Commissioners that the Company has the right to convey the said lands to the Commissioners notwithstanding any Act of the Company, and that the Commissioners shall have quiet possession of the said lands free from all encumbrances, and that the Company will execute further assurances of the said lands as may be requisite, and the Company covenants with the Commissioners that the Company has done no act to encumber the said lands, and the Company releases to the Commissioners all their claim upon the said lands.

In witness whereof the parties to these presents have on the day and year first above written executed the same as follows,—His Majesty the King by the sign manual of the Honourable E. J. Davis, Commissioner of Crown Lands for Ontario,—the Canadian Shipbuilding Company, Limited, by affixing its corporate seal and the signature of the President thereof,—and the Commissioners of the Queen Victoria Niagara Falls Park by affixing its corporate seal and the signature of John W. Langmuir, the Chairman thereof.

(Sgd.) E. J. DAVIS. (Seal)

CANADIAN SHIPBUILDING COMPANY, LIMITED,

(Sgd.) FREDERIC NICHOLLS, President. (Seal)

(Sgd. J. W. LANGMUIR, (Seal)

Chairman Commissioner, Queen Victoria Niagara Falls Park.

4 EDWARD VII.

Statutes of Ontario

CHAPTER 10

STATUTE LAW AMENDMENTS.

Assented to 26th April, 1904.

9. (1) Section 9 of THE QUEEN VICTORIA NIAGARA Rev. Stat. c. 45, s. 9, amend-
ed. FALLS PARK ACT is amended by adding thereto the following words :

“Except where the land tenement or right to be acquired is for the purpose of opening or widening a highway.”

(2) The said section is further amended by adding the following sub-section thereto :—

(2) A highway so opened or widened shall not be used or occupied as a stand by vehicles kept for hire, or by booths or stands for the sale of newspapers, photographs, or for the carrying on of refreshment business or the like.

4 EDWARD VII.

Statutes of Ontario

CHAPTER 10

STATUTE LAW AMENDMENTS.

Assented to 26th April, 1904.

69. THE ACT TO APPROVE AND CONFIRM AN AGREEMENT BETWEEN THE COMMISSIONERS FOR THE QUEEN VICTORIA NIAGARA FALLS PARK AND THE CANADIAN NIAGARA POWER COMPANY passed in the second year of the reign of His Majesty, chaptered 11, is amended by adding thereto the following section :—

4. The agreement contained in the schedule to this Act is amended by striking out the words and figures "first day of July, 1904," wherever they occur in the said agreement, and inserting in lieu thereof the words and figures "first day of January, 1905 :—" Provided that the amendments to the said agreement by this section enacted shall not change or affect the application of the provisions of the said agreement to the parties further than if such amendments had been so enacted in the said agreement at the time when the same was made between the parties thereto.

2 Edw. VII. c.
11, amended

Amendment
of agreement
with Canadian
Niagara Pow-
er Co.

NINETEENTH ANNUAL REPORT

OF THE

COMMISSIONERS FOR THE

Queen Victoria Niagara Falls Park.

1904.

PRINTED BY ORDER OF
THE LEGISLATIVE ASSEMBLY OF ONTARIO.



TORONTO:

Printed and Published by L. K. CAMERON, Printer to the King's Most Excellent Majesty.



WARWICK BRO'S & RUTTER, LIMITED, PRINTERS,
TORONTO.

1st March, 1905.

THE HON. W. J. HANNA, K.C., M.P.P.,
Provincial Secretary Province of Ontario,
Parliament Buildings, Toronto.

SIR,—I have the honor to transmit herewith, for presentation to the Legislature of Ontario, the Nineteenth Annual Report of the Commissioners for the Queen Victoria Niagara Falls Park, (being for the year ended 31st December, 1904) together with the appendices thereunto attached.

I have the honor to be,

Sir,

Your obedient servant, •

JOHN W. LANGMUIR,
Chairman.

BOARD OF PARK COMMISSIONERS.

JOHN W. LANGMUIR, Chairman.

GEORGE H. WILKES.

JAMES BAMPFIELD.

ARCHIBALD W. CAMPBELL.

ROBERT JAFFRAY.

SUPERINTENDENT,

JAMES WILSON,

CHIEF GARDENER,

RODERIC CAMERON.

305

NINETEENTH ANNUAL REPORT
OF THE
Commissioners for the Queen Victoria
Niagara Falls Park.

To the Honorable W. MORTIMER CLARK, K.C., Lieutenant-Governor of the Province of Ontario :

MAY IT PLEASE YOUR HONOR :

The Commissioners for the Queen Victoria Niagara Falls Park beg to submit their Nineteenth Annual Report, being for the year 1904, to which is appended the usual statement of Receipts and Expenditures, the Report of the Park Superintendent, and the text of the Agreements, which have been entered into during the year.

As the Queen Victoria Niagara Falls Park Commission has completed twenty years of active service and now enters upon the third decade of its history it may not be out of place to give a brief historical review of the work which has been accomplished by the Board since its organization in 1885, and in doing this the Commissioners make no apology for repeating matters which may have appeared in one or more of its previous Annual Reports.

INITIAL STEPS.

It is now twenty-six years since the late Lord Dufferin brought his great influence to bear upon the authorities in both Canada and the United States to secure and hold for the benefit of the public all the lands about the Falls of Niagara, in order that the people of all nations might enjoy this great natural wonder for all time, freed from the vexatious annoyances to which they were then exposed.

Influenced by this appeal Sir Oliver Mowat, then Premier of Ontario, had an Act passed by the Legislature in 1880 conferring upon the Minister of Public Works for Canada all the authority which the Provincial Government could give, in order that the project might be carried out as an International undertaking, but no action having been taken by the Dominion authorities in that direction, the Ontario Government took the matter in hand and in 1885 passed an additional Act, the preamble of which reads as follows :—

“Whereas, the Government of the Dominion of Canada has not availed itself of the provisions of the Act passed in the forty-third year of Her Majesty’s reign, entitled An Act Respecting Niagara Falls and the Adjacent Territory, and it is desirable that other means should be taken to restore to some extent the scenery around the Falls of Niagara to its natural condition, and to preserve the same from further deterioration, as well as to afford to travellers and others facilities for observing the points of interest in the vicinity;

Therefore, Her Majesty, by and with the advice and consent of the Legislative Assembly of the Province of Ontario, enacts as follows : ”

This Act provided for the appointment of three Commissioners with authority to "Select such lands in the vicinity of the Falls of Niagara within the Province of Ontario, as are in their opinion proper to be set apart for the purposes set out in the Preamble of this Act" and also "to report as to the plan, which in their opinion ought to be adopted for securing the permanent appropriation of the lands for the object hereinbefore mentioned, and for the improvement and preservation of the property, and as to the mode in which the same should be managed in order to secure the enjoyment of the same as a public Park."

The Commissioners appointed were Colonel Sir Casimer Gzowski, John W. Langmuir and J. Grant McDonald, and immediately upon their assuming office steps were taken to carry out the important trust committed to them. Surveys were made, lands were selected and negotiations entered into with the owners for the acquirement of the private property contained within the limits of the area selected for the Park. As arbitration proceedings became necessary in order to determine the price to be paid for the several properties, Arbitrators were appointed and the values arrived at, but as in several cases Appeals from the decision of the Arbitrators were entered, an Enabling Act was passed by the Legislature at the Session of 1886, by which the appeals were facilitated. Early in 1887 the final awards were made and an Act was passed by the Legislative Assembly of that year, entitled "An Act Respecting the Niagara Falls Park." Under the provision of this Act the title of the Park was defined as "The Queen Victoria Niagara Falls Park." The Commissioners previously appointed were incorporated their duties and authority defined, the lands selected for the Park vested in them, and authority granted for the issue of Debentures to the amount of \$525,000, for the payment of the lands acquired and for preliminary works of restoration, and the Lieutenant-Governor-in-Council was also authorized to vest in the Commissioners any unpatented lands, the property of the Crown, lying along the Niagara River.

PARK TERRITORY.

The area originally defined for the Park embraced all the lands between the River and the top of the high bluff, with an average depth of about two hundred and fifty yards to the west and extending along the River from the Clifton House one mile north of the Horse Shoe Falls to a point above the Dufferin Islands a total length along the water's edge of nearly two and one-half miles and embracing about one hundred and eighteen acres of private property. To this area, however, was added the lands of the Crown, which were also vested in the Commissioners by the Province making an aggregate of one hundred and fifty-four acres embraced within the limits of the original Reservation. This area has recently been increased by the extension of the shore line into the River at various points which makes the present area of the Park proper at Niagara Falls..... 196 Acres.

Recognizing, however the desirability of making the Park system as complete as possible the Commissioners applied to the Government for all the unpatented lands along the Niagara River from Lake Erie to Lake Ontario which could be used for Park purposes. By this means there has been added from time to time:—By Patent from the Crown—

1. The Chain Reserve along the Niagara River, from the Park to Niagara-on-the-Lake, a distance of 13 miles, together with all the ungranted lands lying between the Reserve and the water's edge..... 260 Ac.

2. The Chain Reserve along the Niagara River from Chippawa to Fort Erie, a distance of 16 miles 100 Ac.

Making together an area of..... 360 Acres.

The Commissioners have also acquired the following lands by purchase :

3. Right of way for Electric Railway..... 20 Ac.

4. Lands at Niagara Glen... .. 60 Ac.

5. Lands at Queenston Heights..... 44 Ac.

6. To widen the highway on the Chain Reserve, south of the Park..... 21 Ac.

Making a total purchased area of..... 145 Acres.

In addition to which the Commissioners have under Lease from the Dominion Government :

7. Queenston Heights Military Reserve... .. 69 Ac.

8. The old Fort grounds at Fort Erie..... 17 Ac. 86 Acres.

Making an aggregate of..... 787 Acres

IMPROVEMENTS.

Immediately on receiving possession of the property at Niagara Falls the Commissioners organized a Staff and commenced reclaiming and improving the grounds, removing all unnecessary structures, changing and providing suitable roadways and paths, opening up the property and providing conveyances for the public. To obviate the inconvenience of the Winding Stairway at Table Rock by which visitors were taken down to the base of the cliffs to go under the Falls, a new hydraulic Elevator was constructed, but as the Falls had greatly receded a tunnel was cut through "Termination Rock" and a passage provided to enable visitors to go under the "Sheet of Water." Shelters were also constructed at many of the best points from which to view the Falls and River. This work was sufficiently advanced to permit of the Park being opened to the public in 1888. Since that time constant progress has been made in developing the property; additional roadways and paths have been constructed, wet portions of the grounds drained and levelled, Picnic and Recreation Grounds have been provided and a large portion of the property has been planted out with the best kind of Trees, Shrubs and herbaceous plants and a Greenhouse has been built to furnish bedding and other plants for decorative purposes and cold storage for wintering Tub Plants in safety.

Owing to the construction of the important works undertaken for the development of power in the Park a great many changes were necessitated in the general plan of the Park improvement, and advantage was in every case taken of these changes to ensure the best possible results. One of these important works provided a new means of access to go under the Horse Shoe Falls, by the construction of a new shaft and tunnel from Table Rock House to the heavy sheet of water. The tunnel is over several hundred feet in length and an Electric Elevator is provided in the Shaft by means of which visitors may be taken directly from the Dressing Rooms in that building.

The old historic building known as the "Museum" was for a time retained as a Restaurant and Shelter Building, but as it shut off all the views of the Falls and upper River from the Picnic Grounds and was a very serious obstruction to the prospect from both sides of the River, the Commissioners finally decided to remove it and a new and appropriate Refectory and Shelter Building has recently been erected in a suitable location providing all needed facilities for the public while at the same time the design harmonizes with the surroundings.

It was the intention of the Commissioners at the same time to remove the Table Rock House, as it is even more objectionable, from a scenic point of view than the Museum, being at the most congested portion of the Park, owing to the heavy expense, however, this improvement has been deferred.

The Toll Road, north of the Park, which extended along the front of the town of Niagara Falls, was acquired and the Toll Gate was abolished and a new and thoroughly macadamized road constructed. Under an Agreement entered into with the town the expense of maintaining this two and one-half mile stretch of roadway along the edge of the cliffs is to be borne jointly by the City and the Commissioners.

At Whirlpool Point the rock formation has been covered with soil and planted, a gravelled path has been provided and a Rustic Shelter erected.

At Niagara Glen much clearing up has been done, stairways and walks have been built, shelters erected, and the natural beauties of this interesting spot made thoroughly accessible.

At Queenston Heights additional lands have been acquired and a good roadway constructed upon the level to afford an easy approach to the Monument from the west; Ball and Picnic Grounds have been made; facilities for hot and cold water provided, shelters have been built, the Monument repaired and the historical grounds on the Heights opened up and put in order. As the monolith, which stands at the base of Queenston Heights, marking the spot where General Brock fell, was found to be on private ground, the site was acquired together with an additional area, which had been fenced, planted and maintained in good order.

The Chain Reserve along the edge of the upper River, between Chipawa and Fort Erie, was found to be seriously eroded at several points by the action of the River during storms. At the worst points stone protection has been placed in the water to guard against further erosion, and lands have been acquired to widen the highway at such points.

At old Fort Erie the grounds, which were an open common prior to being vested in the Commissioners, have been fenced and cleaned up and the old fortifications repaired. A substantial and appropriate Granite Monument has also been erected to commemorate the valient deeds done at this point in the War of 1812-14.

These and many other works for the development and improvement of the very extensive and important property now under the jurisdiction of the Commissioners have been carried out from time to time, and throughout the whole period of seventeen years during which the Park has been open to the public, all the property has been improved and kept in an efficient state of preservation. Good order has also been maintained at all times, and any breaches of the peace have been promptly dealt with by the proper authorities.

FINANCIAL REQUIREMENTS.

When the Park scheme was first taken into consideration by the Government of Ontario it was made a cardinal principle that the Park property should be made self-sustaining and that it should not become a permanent financial burden on the Province.

As the Reservation on the American side was established a short time before the Canadian Park, a comparison of the manner of financing the two systems may be interesting.

On the American side the State of New York acquired the lands for the Reservation, embracing about one hundred and four acres, at a cost of \$1,462,929.50, and handed them over practically as a gift to the Board of Commissioners. At the same time providing an Annual Grant of \$20,000 for the maintenance of the property, which was afterwards increased to \$25,000, and in addition special grants have been made from year to year for permanent improvements.

The total appropriation for the maintenance of the property to September 30th, 1903, having been.....	\$410,000
And for special improvements.....	\$366,500
	<hr/> \$776,500

From which must be deducted the receipts from the Reservation.....	\$193,200
Net Expenditure since 1885.....	\$583,300

Making the total cost of the Reservation to the State of New York, which has now an area of 112 acres, considerably over \$2,000,000.

Differing from this the Queen Victoria Niagara Falls Park lands were acquired by the sale of Debentures issued by the Commissioners under the authority of the Legislature and guaranteed by the Province. The first issue of Debentures in accordance with the Act was for \$525,000, bearing interest at the rate of four per cent., payable half-yearly, and terminating in forty years from the date of issue (1887). A portion of the proceeds of the Debenture issue was used in the initial works of restoration and improvement. In 1894 Legislative authority was granted for an additional issue of Debentures to the extent of \$75,000, bearing the same rate of interest and maturing at the same time. The total Debenture debt resting upon Park properties is therefore \$600,000.

The total amount spent in acquiring the original Park at Niagara Falls and the several additional properties purchased later has been.....	\$463,871.60
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And the outlay for permanent improvements on Capital Account upon the whole of the property vested in the Commission to December 31st, 1904.....	\$179,885.52	\$643,757.12
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There has been paid for interest on Debentures.....	\$401,507.28	
And for general maintenance... ..	\$305,875.10	\$707,382.38

Making the total expenditures to date.....	\$1,351,139.50
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The Act establishing the Park and incorporating the Commission made no provision for meeting these large capital and maintenance expenditures other than the imposition of reasonable tolls for admission to the Park and for the use of such special appliances as might be found desirable for the convenience of visitors. As the Commissioners of the Reservation on the American side made the admission to their Park entirely free, it was considered impracticable to impose a charge for entering the Canadian Park, and the Commissioners were therefore obliged to relinquish this anticipated source of revenue and as the modest scale of tolls imposed for the use of special appliances provided in the Park yielded only a small sum the burden was thrown upon the Commissioners to devise some means of obtaining income in

order to provide for the outlay not only for works of improvement and general maintenance but for the payment of interest on the debenture debt.

After much consideration and not a little solicitude it became evident to the Commissioners that the requisite revenue could only be raised by granting privileges in connection with the Park which while being revenue producing would do the least possible violence to the aims of the original projectors of the Park.

The several methods by which this has been accomplished, and a permanent income assured which will not only meet the annual requirements for maintenance and current expenses, but also the liabilities incurred in connection with the acquirement and development of the Park and all its outlying properties, and will ultimately provide a permanent and substantial addition to the revenues of the Province, may be now briefly referred to.

FRANCHISES.

1. The necessity for providing tourists with a convenient and economical means of reaching the Park, and of viewing all points of interest along the Niagara River between the navigable waters at Chippawa and steamer connections at Queenston, a distance of twelve miles, every portion of which is full of historic interest and scenic grandeur, led to the granting of a franchise for an Electric Railway through the Park and extending in either direction to the points named. The Commissioners providing the right of way over this property as well as the use of sufficient water from the river to furnish power for the railway. For this franchise the Commissioners receive \$10,000 per annum.

2. The privilege of taking visitors behind the falling waters of the Horse Shoe Falls and of selling refreshments and photographs in the Park was next granted, and from this source the sum of \$9,000 a year is obtained.

3. Early in 1890 application on behalf of English Capitalists and Electricians was made to the Commissioners for an option covering the right to develop the water power of the Falls for generating electricity for commercial purposes. This application received very careful consideration, not only on account of the opportunity thus afforded for obtaining revenue, but for the possibilities which would be presented whereby the enormous power of the Falls, which had been for centuries unused could be utilized without in any material way defacing the scenery of the Park or marring the surroundings of the Falls. As the applicants failed to complete their Agreement the option lapsed and it was not until 1892 that a franchise was granted, under the terms of which a Company was authorized to utilize the water for power purposes upon the payment of certain rentals. This franchise also lapsed by reason of default in the construction of the works called for in the Agreement, and a new franchise was subsequently granted to the same Company under amended restrictions. This Company, *The Canadian Niagara Power Company*, has actively prosecuted its works in the Park and has completed all the water ways for the full capacity of its plant and has now actually ready for use and transmission 20,000 electrical horse power. The rights granted cover the output from ten Electric Machines of 10,000 horse power capacity each, with one spare machine, or a total working capacity of 100,000 Electric horse power, and the rentals to be paid are : For ground rent including the first 10,000 electrical horse power developed and sold \$15,000; for every additional horse power between 10,000 and 20,000 at the rate of \$1.00 per horse power; for every additional horse power above 20,000 up to 30,000, 75 cents per horse power and for every horse power above 30,000, 50 cents. Under this tariff, should the Company develop the full capacity of the plant, \$67,500 per annum would be received.

4. *The Ontario Power Company of Niagara Falls* also made application for a franchise to develop water power, its first design being to tap the Welland River near Chippawa, leading the water through the Park, and to this end an Agreement was entered into with the Company and work was begun in 1902. Further examination of the physical characteristics of the region however led to a change of plans, and an application for the privilege of taking water from the Niagara River at Dufferin Islands, in addition to the original grant, was made. The Commissioners decided that the rights asked for should be looked upon as a separate and distinct franchise and therefore should be paid for accordingly and an Agreement was entered into in 1902 on that basis whereby the Company was empowered to develop water from the two sources.

The Niagara River rights granted this Company provide for laying three main feeder pipes under the surface of the Park, each of which will be eighteen feet in diameter and have capacity for developing electricity in the Power House variously estimated at from 50,000 to 60,000 horse power. What quantity may be developed from the original or Welland River project has not yet been determined. For ground rent, including the first 20,000 electrical horse power sold, the Company will pay annually \$30,000; for each horse power above 20,000 up to 30,000 \$1.00; for every additional horse power above 30,000 up to 40,000, 75 cents; all above 40,000 horse power to be paid for at the rate of 50 cents per horse power. Should the Company dispose of say 100,000 horse power the rental from this source will be \$77,500 and should the output from both the Niagara and Welland River projects reach 200,000 horse power, the total rental would be \$127,500.

5. *The Electrical Development Company of Ontario*, an exclusively Canadian Corporation applied for rights to develop water power at Tempest Point, midway between the works of the Canadian Niagara and Ontario Power Companies; after protracted investigation a franchise was granted the Company early in 1903 to develop 125,000 horse power on the same financial terms as those granted to the Canadian Niagara Power Company. As the works of this Company are situated in the Niagara River at the most turbulent part of the upper rapids it was of course impossible to foretell what hydraulic conditions might be found within the area defined for the works of the Company. When the temporary Coffor Dams were constructed and the river bed unwatered it was discovered that a much greater volume of water would be available for use than was required for developing the volume of power agreed upon. The Company therefore sought permission to utilize this extra water, and an agreement was ultimately arrived at by which subject to ratification by the Legislature, the Company are given an option, exercisable at any time within a period of ten years from the time the works first authorized are in operation, to generate additional power up to, but not exceeding, 125,000 horse power. The terms and conditions of this franchise are identical with the one originally granted, and until either exercised or cancelled by default, certain rentals are to be paid.

For these five franchises there has already been paid in to the Commissioners the sum of \$620,777 as follows :

Electric Railway Company.....	\$132,500.00
Photograph and other privileges	103,700.00
Canadian Niagara Power Company	224,577.78
Ontario Power Company.....	110,000.00
Electrical Development Company.....	30,000.00

Or a total of..... \$620,777.78

It will thus be seen that nearly one-half of the total expenditures incurred in connection with the establishment of the Park and its development and care since 1887, have been derived from the franchises above recited. The balance having been obtained from tolls and by the sale of the debentures. A condensed summary of the entire receipts and expenditures is as follows :

Total amount expended to date.....		\$1,351,139.50
Received from franchises... ..	\$620,777.78	
Received from sale of debentures.....	611,953.07	
Received from tolls and sundry sources... ..	95,948.15	1,328,679.00

Thus showing an excess of expenditures over

Receipts for the eighteen years of..... \$ 22,460.50

The annual revenues now assured to the Park from the various franchises enumerated will after this year be \$84,200 while the revenue will increase from year to year with the growing demand for electrical energy, and in all probability will amount within the next five years to over \$200,000 per annum.

Having thus given a general summary of the many important matters which have engaged the attention of the Commissioners since the incorporation of the Board in 1885, the various questions which have engrossed their attention during the past season may now be referred to.

WORK DONE IN 1904.

It is perhaps unfortunate that great engineering works of any kind cannot be carried on without defacement of the surroundings, as even the erection of a small dwelling house necessitates the scattering of building and other material about the locality for the time being. To how much greater extent therefore must of necessity be the defacement of the Park surface and general surroundings when the operations now being carried on are upon such a gigantic scale, involving the bringing on the ground and storing of vast quantities of machinery and construction materials of every kind and of the most massive proportions. The Commissioners are, however, pleased to know that in respect to the works of one of three companies operating the worst defacement is over and another season will see the surfacing and finishing of the area disturbed by this company's works, well advanced towards completion.

Throughout the year all the works for the development of the water power plants have been prosecuted with a great measure of success, and a very brief history of the progress made in each case may be of interest.

THE CANADIAN NIAGARA POWER COMPANY.

In their last Annual Report the Commissioners referred to the excellent progress which had been made by this pioneer company in working out its initial development. Since that time the works have been carried on with such marked energy that at the close of the year one-half of the Power House had been built and all the machinery and appliances required for two of the 10,000 electrical horse power generators were fully completed and made ready for service. The ceremony of formally starting these immense electrical machines was conducted by the chief officials of the company, in presence of the Commissioners and a few invited guests, on the second day of January, 1905. The various works, required to complete the installation of the hydraulic machinery for three additional units of 12,500 horse power each, and electrical machines for 30,000 additional horse power, were all well advanced at the close of the year.

During the season this company also commenced the work of surfacing and restoring the portions of the Park, which had been disturbed by the operations of the company.

The Transformer House of the company, from which electrical current is to be stepped up to high pressure for transmission purposes and which is located a short distance outside the Park limits, has been finished, and the under-ground conduits for carrying the electricity through the Park to the Transformer House and to the international boundary at the Upper Steel Arch Bridge, have also been completed.

The Commisisoners have reason to be greatly gratified that this first instalment of electric power on a large scale from the waters of the Niagara River on the Canadian side, has been so successfully accomplished, and that the power was available for consumers within the time limit provided for in the agreement.

ONTARIO POWER COMPANY.

The very extensive operations required for the development of the Niagara River power by the Ontario Power Company have all been carried on with skill and energy during the past year, and everything points to the completion of the first instalment of electrical energy by mid-summer of 1905.

The Forebay works at the Dufferin Islands, with the exception of the Intake Piers and Ice Diverter, are practically ready for letting in the water, and only the Gate and Screen House superstructures and a few other minor works remain unfinished. One of the eighteen feet steel pipes, which is to carry the water supply from the Forebay to the power house, below the Falls, is in place and the concrete covering, to protect the steel pipe is nearing completion. Work on the penstocks by which the water will be conveyed from the pipe to the water wheels, is well advanced and a considerable portion of the power house, which is located on the talus shore of the river below the Falls, has been erected, and the interior is now being prepared to receive the machinery.

Very careful consideration has been given by the Commissioners to the designs submitted by the company for their power house, under the Falls, and their gate and screen houses at Dufferin Islands. The plans for these buildings have been designed by a well known Buffalo Architect, with special reference to their location in the Park.

The power house, which is of concrete, is designed somewhat after the Egyptian model, with a flat roof and comparatively low elevation. This building will be very little in evidence from the surface of the Park proper, as the roof will be fully one hundred feet below the level of the roadway at Table Rock and advantage can be taken of the flat roof surface, for the display of Tub Plants, Shrubs and other forms of natural treatment, which will afford pleasing effects and greatly relieve the rigid lines of the structure. The accompanying plate will illustrate the general appearance of the building when it is completed to its full length. This however will not likely be done for many years to come, as the portion now under construction only provides for the machinery and appliances dependent on the water supplied by the first pipe line, or about one-third of the finished building as shown in the illustration attached.

The gate house which will contain the massive gates needed to regulate the admission of water to the pipe lines will be of high class Roman stone construction, the design is pleasing without being ornate, an illustration of this building is also given. The screen house, which covers the steel rack, by

which floating logs or other foreign matter carried by the water, will be prevented from entering the Inner Forebay will also be built of Roman stone, of artistic design, and the roof will form a broad promenade with wide stairways leading up at either end, from which visitors may enjoy views of the cascades and upper River.

THE ELECTRICAL DEVELOPMENT COMPANY OF ONTARIO.

This enterprising company has prosecuted its various works in an exceptionally able and vigorous manner throughout the season. The construction of the Coffey Dam in the Rapids, referred to in last year's report, permitted the excavation and constructions in the bed of the river to be proceeded with, all of which work including the excavation of the Wheelpit and its subsidiary tunnels, the construction of the water and land walls, the arched sheer ice boom, the cleaning up of the Forebay and the driving of the main discharge tunnel, from the wheelpit to the edge of the Falls, have been practically completed, and large quantities of construction material are on hand for the rapid carrying on of the remaining works.

On the completion of the Coffey dam when the area embraced in the Forebay was unwatered it was found owing to a natural depression in the bed of the River, the depth of water at the point of Intake was very much greater than had been expected by the company's engineers, and as the works of this company are located on the cascades, and the strike of the current leads directly into the mouth of the Forebay it became apparent that when the Coffey dam was removed the volume of water intercepted by the works would be greatly in excess of the company's requirements, under their existing agreement.

In order to take advantage of this favorable hydraulic condition an application was made by the company to the Commissioners for the grant of an additional privilege, exercisable within a limited number of years, for generating electrical power in excess of the quantity authorized to be developed under the terms of the Agreement of January 29th, 1903.

The company represented to the Commissioners that if it was to be granted the right to utilize at some future time this surplus water, it would be necessary to make provision whereby this could be done before the Coffey dam now enclosing the Forebay is removed, otherwise a very great additional expense would be imposed upon the company.

After giving full consideration to all the important issues involved, the Chairman prepared a memorandum for the Government, setting forth the various matters which in his opinion should be determined before further negotiations could be entered upon, which memorandum received the approval of the Board and is as follows:

"Before deciding whether the application of the Electrical Development Company of Ontario to be allowed to develop an additional 100,000 horse power should be granted, there are certain features of this matter which should be carefully considered:—

I. Seeing that three franchises have already been granted for the withdrawal of water from the Niagara River for the development of approximately 375,000 electrical horse power, and a further franchise for 100,000 horse power, to be drawn from the Chippawa River, making an aggregate development already authorized of possibly 475,000 horse power, it rests with the Government to decide whether as a matter of public policy any further concessions shall be granted at the present time. The points to be considered are:

(a). The franchises already granted to three separate corporations for such a large aggregate development should for the present be sufficient to induce effective competition in the supply of electrical energy, and until the extent of the demand there will be for its use in Ontario is definitely known.

(b). If such demand in the near future appears to require further development, additional concessions can be granted in good time to meet it.

(c). If the methods, adopted by the various power companies, for disposing of electrical power at Niagara and throughout the Province by transmission are satisfactory both in respect to efficiency of service and price, the Government will then be in a position to decide whether the public interests will be better served by granting further corporate franchises, or in otherwise dealing with the development and sale.

(d). If a greatly increased demand arises in the future for electrical power, doubtless the value of franchises for the use of Niagara River water will be largely increased and better terms will be secured for any additional concessions that may be hereafter granted.

(e). If franchises are granted, which are likely to be, on the American side of the River, involving the withdrawal of a large volume of water from the river, thus seriously affecting the existing levels, it may become necessary in the protection of Ontario interests to have equal or greater withdrawals of water on the Canadian side of the river, or that an International Agreement should be arrived at for a defined limitation of such withdrawals.

2. It should also be borne in mind that the granting of new power franchises in the Park or the enlargement of the existing licenses, as now asked for by the Electrical Development Company, will necessitate the construction of buildings on the shore of the river, which constructions may cause an undue defacement of the Park and water views, which if possible should be avoided.

Subject to the foregoing general principles being settled the Commissioners are favourable to granting the Electrical Development Company of Ontario the concession asked for, for the following reasons:—

A. In the construction of the Coffor dams and permanent works covered by the existing franchise of the Development Company it has been disclosed that owing to the great depth of water discovered as the work proceeded, the Intake approved of, without any additional permanent extensions, is capable of furnishing the necessary supply of water for developing an additional 100,000 horse power.

B. When the first franchise was granted it was accepted by the Development Company subject to the site and permanent works of the Ontario Power Company as exhibited in plans, it being understood that the flow over the weirs of the latter Company was to inure to the benefit of the former Company thereby precluding the location of any power plant between these two companies even if the space for another power company permitted.

In settling the terms upon which such additional concessions should be granted it should be borne in mind that although it is claimed that the present Intake will not require to be enlarged, upwards of 500 feet of the river front will be taken up in the extension of the wheel-pit and power house in the development of the additional power. It is therefore but reasonable that the concession asked for, and which may not be developed or become revenue producing for many years, should be

looked upon as an entirely new franchise for which the usual \$15,000 annual ground rent should be paid in addition to the charge per horse power provided for in all the franchises, viz.:—\$1, 75 and 50 cents respectively for all electrical power manufactured and sold.

Although the Commissioners are convinced that the withdrawal of additional water from the river will not seriously reduce the levels at the Intakes of the Canadian Niagara Power Company and the Electric Railway, still it would be safer not to grant the additional concession until the temporary constructions in the way of Coffor dams, both of the Ontario Power Company and the Electrical Development Company are removed and the normal flow of water in the river restored. Inasmuch however, as any new agreement that may be entered into with the Development Company will require to be submitted for the approval of the Legislature before it becomes operative, the companies that would likely be affected by the granting of the concession asked for, would no doubt have to be heard.

November 11th, 1904."

With reference to the last clause of the Chairman's memorandum and to the objection which might be raised to taking the surplus water referred to from the river for fear that its withdrawal would reduce the levels at the Intakes of the Companies operating lower down the stream: The Commissioners desire to point out that this subject was thoroughly investigated two years ago when the original franchise was granted to the Electrical Development Company. Eminent hydraulic engineering opinion obtained at that time established the fact that the withdrawal of the quantity of water required for the output authorized by the agreement of January, 1903, would change the levels at the Intakes of the Canadian Niagara Power Company and the International Railway Company so little that the lowering would hardly be appreciable. In order, however, to provide against any material reduction in levels, and notwithstanding that provision is made in such an event to deepen the Intake affected, the Commissioners granted the franchise to the Electrical Development Company upon the company depositing with the Commissioners \$25,000 to be held by them for the purpose of constructing Wing dams at these Intakes, if it was found that the water withdrawals of the Development Company when in operation materially affect the water levels. This fund is now on deposit to the credit of the Commissioners, and is available for use at any time should the Commissioners find that Wing dams are called for, a contingency which according to the advice of the eminent hydraulic Engineers is not likely to arise, and certainly not for many years to come.

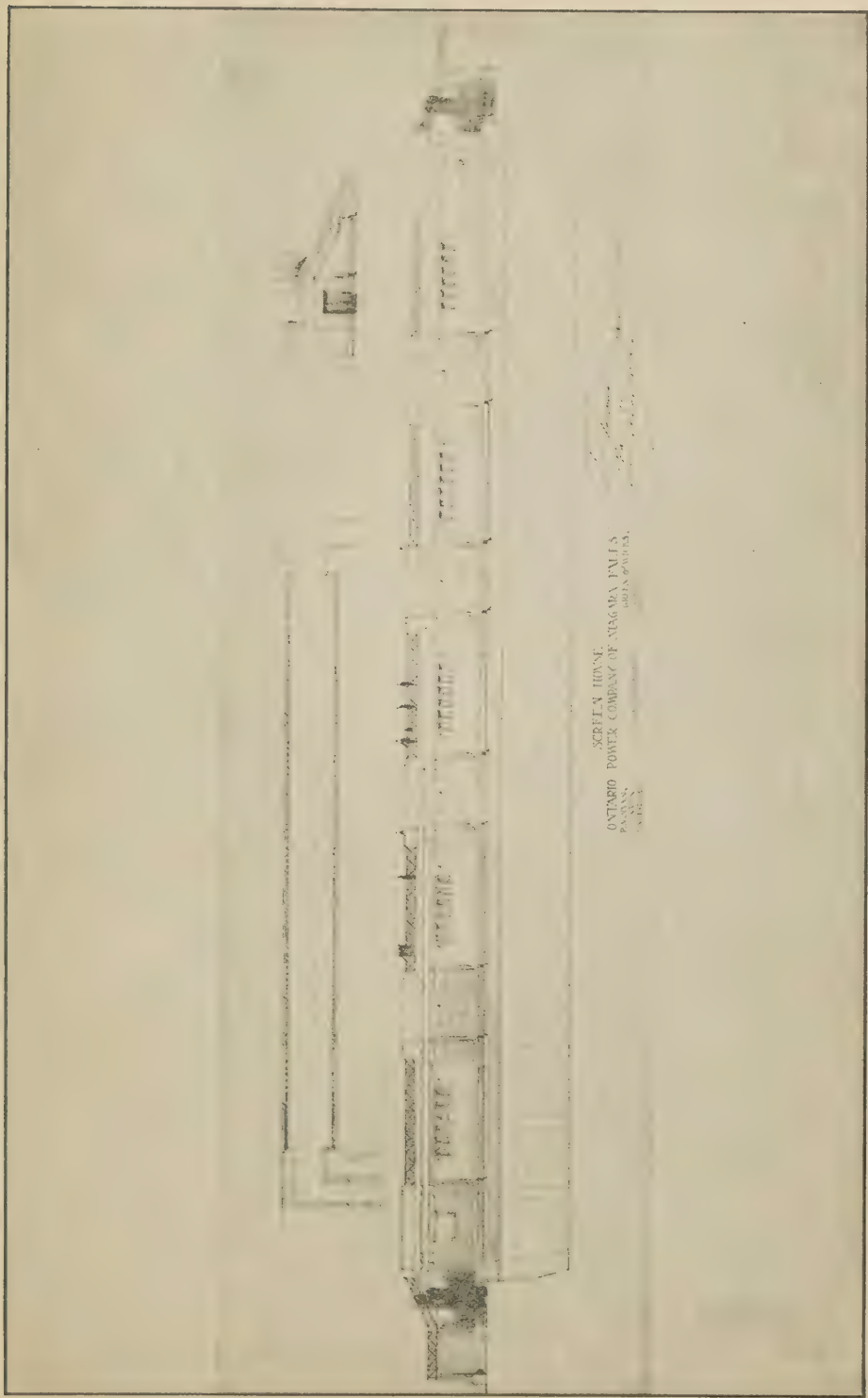
After protracted negotiations, the Commissioners received authority from the Government to enter into an Agreement provided that at least one-half of the additional power thus generated was to be reserved for the use of municipalities, subject to the terms of delivery and price of the power being determined by order of the Lieutenant-Governor-in-Council. The work of development to commence within ten years from the first output of power under the company's first agreement. The text of the agreement will be found in the Appendix, the terms of which are briefly as follows:—

A. A yearly rental of \$5,000 is to be paid for option until such time as the Company generates one-half of the output authorized by first agreement, and thereafter \$10,000 per annum until power under this agreement is developed.

B. The surplus water in question may be utilized for the generating of power up to but not exceeding 125,000 horse power.



The Power House of the Ontario Power Company.



SCREEN HOUSE
ONTARIO POWER COMPANY OF NIAGARA FALLS
PAVING
SCREENS

The Screen House of the Ontario Power Company.

C. One-half of the quantity which may be generated under this agreement is specifically reserved for the use of municipalities in Ontario, at rates to be fixed by the Lieutenant-Governor-in-Council.

D. The rentals to be paid and the conditions imposed are in all respects similar to the stipulations contained in the agreement of January, 1903, under which the company are now constructing works in the Park.

E. The new agreement is to be subject to the ratification and approval of the Legislative Assembly.

FORT ERIE PARK.

The report of last year made reference to the request of the Commissioners that a sum of money be granted by the Parliament of Canada, for the erection of a suitable Memorial in the Park at Fort Erie to commemorate the heroic siege of that fortress in the War of 1812-14. The application having been granted the Commissioners determined that the Monument should consist of an ornamental shaft of Canadian Granite, with a full inscription of the Regiments engaged and of the Officers who fell in the memorable struggle. The Honourable the Minister of Militia and Defence approved of the plans and estimates submitted by the Commissioners, when a site was chosen on the ramparts, and contracts entered into for the work. With the exception of the two large inscription Tablets in bronze the Monument has been completed, and when these are furnished the Commissioners hope to have the Monument unveiled by the Honourable the Minister of Militia and Defence, with appropriate ceremonies.

NIAGARA RIVER PARKWAY.

A good beginning has been made in the widening of the roadway and in protecting the shore line along the bank of the Niagara River between Chippawa and Fort Erie. The Commissioners have kept well in view the desirability of making a Parkway along this beautiful reach of the river, and restoring the sixty-six feet which in many places has been cut into and the clay soil much eroded by the river, particularly during storms. At several places where the erosion has been greatest, width sufficient for a proper boulevard has been purchased from the adjoining proprietors and at points where the aggressive action of the river was most severe stone protection has been placed in such a position as to form a barrier to the destructive wave action. It is most important that this work should be continued until the whole of the river front from the Park to the old Fort grounds at Fort Erie has been thoroughly protected from the action of the river, and a well built boulevard properly ornamented with shade trees constructed and maintained over the whole distance.

At present the Reserve lands placed under the Commisisoners terminates at the Welland River, Chippawa, from which point to the Park, a distance of a little over a mile, the frontage along the Niagara River is in private hands. It is very desirable that the Commissioners should receive authority to negotiate with the owners of the lands along this short reach of the river so that there might be a continuous road on Government property, from Fort Erie to the Park, and that the Government should vest in the Commissioners the foreshore and water lots lying between the Park and the mouth of the Welland River in order that protection may be afforded to the important Electrical Power Works holding franchises from the Commissioners within the Park.

WIDENING APPROACH TO PARK.

The original roadway of one chain in width along the edge of the cliff between the Clifton Steel Arch Bridge and the Park grounds had owing to the

encroachment of the old Clifton House buildings and probably the falling of rock from the overhanging wall of the river gorge, made this the principal entrance to the Park very narrow and congested, so that during the summer season the space reserved for the driveway has been wholly inadequate. When the Clifton House was destroyed by fire some years ago the Commissioners, with the sanction of the Government, commenced negotiations for the acquirement of a strip of land for the purpose of widening the approach to the Park. It was not, however, until the property was acquired by the Clifton Hotel Company that arrangements were completed under which all the land lying east of the present front line of the LaFayette Hotel produced southerly to Ferry Street is to be deeded to the Commissioners. The acquisition of this strip of land will afford a means of remedying the congestion in travel at this point and at the same time will enable the construction of an appropriate entrance to the Park. In addition to the widening of the road the Clifton Hotel Company have consented to keep the easterly line of their building, which is now under construction, back from the street line, and to bevel the angle near Ferry Street thus affording not only an enlarged open space but greatly improving the line of vision to the Park. When the building is sufficiently advanced to make the exact location clear it is proposed to remove the Mowat Gate and make the principal entrance to the Park more in line with the approach from the Bridge, and also to erect an entrance which will be worthy of the Park and of the Province.

NEW SHELTER BUILDING AND REFECTORY.

In their last report the Commissioners referred at length to the removal of the old Museum Building which had for several years been used in part as a Restaurant and in part as a shelter for picnic parties in stormy weather, and to the building of a suitable structure for this combined use on a location which would not obstruct the views of the Falls from the picnic and play grounds. The new building was sufficiently far advanced by mid-summer to permit of occupation, and the structural character of the building, the magnificent outlook from its broad verandah and towers and the many conveniences which have been provided for all classes of visitors, have met with very general approval. The grounds about the new building have also been tastefully laid out with shrubbery, with suitable walks for access to the building from all directions.

GENERAL MAINTENANCE.

The ordinary works for the maintenance and care of the Park property have been carried on throughout the season, and not only the original Reservation at Niagara Falls but also the Queenston Heights Park and the Niagara Glen, have been maintained, improved, and additional facilities for the enjoyment of visitors provided. A full reference to these works will be found in the report of the Superintendent of the Park, appended hereto.

The statements of the receipts and expenditures for the year will be found attached hereto.

All of which is respectfully submitted.

J. W. LANGMUIR.

Chairman.

GEORGE H. WILKES.

JAS. BAMPFIELD.

A. W. CAMPBELL.

ROBERT JAFFRAY.

RECEIPTS, 1904.

Balance on hand in Imperial Bank, January 1st, 1904	\$ 23,908 48
Ontario Power Company—Rental	\$30,000 00
Canadian Niagara Power Company—Rental	15,000 00
International Railway Company	10,000 00
Zybach & Brundage—Rental	6,750 00
Tolls and Sundries	3,733 00
Wharf privileges	411 00
Bank Interest on Balances	256 76
	66,150 76
OVERDRAFT AT IMPERIAL BANK, DECEMBER 31ST, 1904	22,460 50
	\$112,519 74

NOTE.—A special deposit of \$25,000.00 stands at the credit of the Commissioners in the Imperial Bank, to meet cost of Wing Dams at Intake of Canadian Niagara Power Company, and at joint Intake of International Railway Company and City of Niagara Falls.

EXPENDITURES, 1904.

CAPITAL ACCOUNT.

Paid Wages, permanent works	\$ 3,290 00
“ Material	4,304 25
“ account, new Monument at Fort Erie (total cost to be reimbursed by Dominion Government)	2,465 10
“ acquiring lands and protecting shore, Chippawa to Fort Erie	4,507 62
“ account, legal services	17 39
“ Refectory Building	47,919 65
“ Miscellaneous	120 00
	\$ 62,624 01

MAINTENANCE ACCOUNT.

Paid Salaries, office and clerical staff	\$ 3,615 11
“ “ constables and gardener	5,560 00
“ Wages, laborers and teams	11,225 88
“ for materials	3,700 81
“ Office expenses	236 40
“ Commissioners' expenses	659 01
“ Miscellaneous	400 97
	25,398 18
PAID INTEREST ON BONDS, INCLUDING BANK CHARGES	24 497 55
	\$112,519 74

APPENDIX “A.”

REPORT OF THE SUPERINTENDENT OF THE PARK.

To the Commissioners of the Queen Victoria Niagara Falls Park:

GENTLEMEN,—The past season has been in several respects an abnormal one in the history of the Park—the temperature at the beginning of the year ranged many degrees below the normal, and the snow fall was considerably more than the average. These climatic conditions were not favorable for work of any kind being carried on in the open, and were particularly trying

to the less hardy varieties of plant life which have been introduced in the Park. It was not surprising, therefore, that upon the opening up of Spring some of the choice shrubs and herbaceous plants were found to have been injured; on the other hand, however, it was discovered that several varieties of Magnolia and other delicate trees and shrubs of southern habitat, not to be found elsewhere in Ontario, and which we fully expected to lose, withstood the severity of the weather without protection, or with but a slight covering of leaves about the roots.

The year was also remarkable for the activity displayed by the corporations engaged in the development of Niagara water power, and to the great number of workmen employed in prosecuting these several works—no fewer than twenty-five hundred being engaged steadily throughout the summer and fall. Notwithstanding this great influx of workmen of many nationalities, some of them from the most disorderly districts of Europe, we have been able at all times to maintain good order in the Park, and only on a very few occasions has it been necessary to arrest evildoers, in all such cases, however, justice was promptly administered by the Courts and the unruly element speedily learned to respect our Canadian laws.

Never before since the establishment of the Park at Niagara Falls has there been so many large excursions to this side of the river. It would appear that greater facilities are afforded in the Queen Victoria Niagara Falls Park than anywhere else for the comfort and convenience of all classes of picnic parties, and the consequence is that every year adds to the number of Sunday School and other excursions billed to visit the Park, and to the strength of the various contingents. It is again a pleasure to be able to chronicle that notwithstanding the great crowding of the ground at such times no accident occurred nor did anything worse happen to mar the pleasure of the visitors than a sudden and heavy thunderstorm on one occasion.

Before detailing the various works accomplished in the improvement and maintenance of the Park during the year a reference may be permitted to the various works each of vast importance now under construction by the three Companies having franchises to utilize the waters of the Niagara River within the Park limits. In chronological order the first of these is:—

THE CANADIAN NIAGARA POWER COMPANY.

This company had made such progress with its undertaking at the beginning of the year that the highway and Electric Railway bridge, spanning the Intake, had been constructed, the walls of the Forebay had been partially built and the lining of the Wheelpit and Discharge Tunnel were being carried on. In 1904 these works were prosecuted vigorously and by the end of the year the Intake Piers and Rack, the Forebay Walls, the walls of the Ice Run, with its bridge and outlet into the river had all been finished; the excavation of the large area occupied by the Forebay was carried down to the required level, and the outer and inner masonry walls of the Screen House had been completed for the full ultimate capacity of the plant; and a considerable portion of the Cofferdam, by means of which all these works were made possible, had been taken away and the waters of the river finally admitted to the wide channel or forebay from which the supply will be drawn to operate the works.

The northerly one-half of the Wheelpit, which was receiving its brick lining at the beginning of the year, was early completed and the installation of the massive machinery required to operate the works was immediately put in hand, and such progress has been made that the complete outfit for two of the

great electrical machines, each of 10,000 horse power capacity have been made ready, and a portion of the material is on the ground for an additional three units, making 50,000 horse power in all. The southerly one-half of the Wheelpit is now being excavated, but it will require another year to complete this work ready for the hydraulic and electric machinery.

The great Tunnel by which the water discharged from the turbines is delivered to the river below the Falls, has been entirely finished and the shaft walled up and closed.

Much of the work needed to level up the grounds disturbed by the Company has been done, and protection of the new filling, where in contact with the current of the river, is well in hand.

The northerly one-half of the Power House, which has a capacity for five generator units has been built. It is an imposing structure faced with rock faced Queenston limestone and lined with ornamental brickwork. The main roof is of green glazed tiles resting upon steel work. The eastern or main front of the building has been extended out so as to cover over the screen chamber or Inner Forebay. The walls of extension of the Power House have not been carried as high as the main building and the roof is flat with a low stone ballustrade along the water side. This will provide a very extensive and convenient promenade to which it is proposed to admit visitors who may desire to see the Power House in operation.

The electrical generators are note-worthy as being the largest electrical machines which have so far been constructed, each having an output of 10,000 electrical horse power without overloading. They are 11,000 volt machines of the internal revolving field type with vertical shafts driven by the turbines at the bottom of the Wheelpit chamber. The elaborate regulating and controlling devices for the electric generators are all contained in a raised switch board, which stands in the centre of the building, and upon the deck of which the measuring instruments are placed. The building is constructed wholly of fire proof materials and its design and character are both eminently suited to the circumstances of use and location.

In accordance with the terms of the agreement under which the company operates, all the electric power generated must be taken without the Park, to this end a 32-duct conduit with manholes every three or four hundred feet was constructed from the power house to the Upper Steel Arch bridge, and also to the Transformer Station, which is located a short distance south of the Park limits. As this conduit will carry high voltage current it was essential that the ducts be laid in concrete, and the whole of the line including the manholes thoroughly drained. Owing to the excavation having to be made chiefly in rock, with take off drains to the edge of the cliff from each manhole, the work proved to be a very tedious one, which occupied the greater part of the year. The northern portion, through the front of the Park, was completed in time to restore the surface before the excursion travel began consequently the execution of the work did not materially interfere with the comfort of visitors. Several of the heavy armored copper conductors have already been connected up ready for business.

ONTARIO POWER COMPANY.

The works of this Company may for convenience be divided into three parts, viz.: (a). The Forebay works at the Dufferin Islands. (b). The Power House on the bank of the River below the Falls. (c). The Pipe Line conveying the water through the Park to the Power House.

All of these works are on a scale of great magnitude and may be briefly described. The Intake, which has not yet been constructed will consist of a continuous upright Curtain Wall of armored concrete, twelve feet high, the bottom of which will be about six feet above the bed of the river and seven feet below normal water level. This will be supported by narrow concrete piers anchored to the bed rock. This Intake will be placed at an obtuse angle with the stream, and reach from the shore to the nose of the water wall, some six hundred feet, the object being to divert any floating ice or logs from entering the Forebay, and also by means of Gates to close off the water altogether should occasion require. From the outer end of the Intake the Water Wall, a monolith concrete construction of massive proportions extends directly down stream for 600 feet when it curves in to join the Screen House. The object of the wall being to form a "Forebay" or still water pond of ample dimensions for the supply of water for the full capacity for which the works are designed, and in addition sufficient to carry off any ice which may enter or form within the pond, and also to raise the level of the water to the elevation of the River at the point of Intake. This water wall will not be visible as there will be from one to two feet of water flowing over its crest at all times. At the lower end of the Forebay and at a right angle with the course of the river stands the Screen House where the water will pass through a fine steel rack to remove foreign matter.

The Screen House will contain the machinery to raise and lower the racks, and will be an imposing structure finished in Roman Stone. As this building will cut off some of the views of the river from the Dufferin Islands it has been designed to afford a broad and safe promenade for its entire length. Handsome stone stairways leading up from the finished Park level at either end. Passing the screen house the water will enter the curved inner forebay, where the channel is rapidly contracted in width and deepened until at the mouth of the pipes in the Gate House it attains a total depth of about 30 feet. This curved Inner Forebay has very substantial land walls of concrete surmounted by an ornamental stone and iron railing, similar to the railing along the edge of the cliff overlooking the Company's Power House.

The Gate House will be a Roman Stone structure of handsome design, in which will be placed the mechanism required for raising and lowering the massive gates by which the admission of water to the Pipe Lines may be regulated. This building will rest upon the "Head Block" which is an immense mass of concrete designed to resist the pressure of the high head of water at this point and provide suitable mouth pieces for the eighteen feet diameter pipes which carry the water to the Power House.

In the execution of all this work great quantities of materials had to be brought on the ground, and excavations extending over about ten acres of the river bed were needed. Advantage has been taken of the surplus material from the excavation to enlarge the Dufferin Islands and to form a driveway around the great sweep of the southern channel of the river at this point.

All of the works pertaining to the Forebay with the exception of the Intake, the super-structures of the Gate and Screen Houses and the surfacing of the made ground have practically been completed, and but little remains to be done in the spring in order that the water may be admitted to the Forebay.

POWER HOUSE. With the opening of spring work was begun upon the foundations of the Power House building, a site for which was selected below the cliff a short distance north of Table Rock. The Ontario Power Company will work under a higher head than either of the other electrical development companies, and the machinery will all have a lower velocity. As the water wheels are designed for 11,400 horse power capacity each, and the generators

10,000 electric horse power, connected up on a horizontal shaft and revolving 187 times a minute it will be apparent that all the machinery must be exceptionally massive, and as the building is located upon the talus slope of the river bank it was absolutely necessary to have the foundation of the most substantial character. This has been accomplished by excavating far down into the sloping bank and constructing what is practically a monolith of concrete over the whole area of the building, the water supply and waste and all necessary contrivances required below the floor level being embedded in the mass.

As the season progressed it was found that owing to the many difficulties encountered it would be impossible to have the whole work carried on simultaneously, so it was determined to push the construction of a portion of the building in the hope of getting the roof on before winter set in. The weather proving favourable this was accomplished and the preparation of the foundations from five units of the heavy machinery, much of which is now upon the ground, is making rapid progress. The work being carried on under cover, in a building heated by natural gas and lighted by electricity.

The walls of the building are of concrete, the Inner wall, towards the cliff, being very massive, and designed to withstand any pressure which may be caused by stones falling from the face of the cliff. The front wall is also of heavy construction in order to resist the possibility of pressure from ice gorging in the river and raising the water abnormally. The floor of the building will be 25 feet above ordinary summer level of the river, and the roof 65 feet. The roof is flat, of armoured concrete upon heavy steel trusses and finished in bricks laid in asphalt. The color effects of the building are to be subject to the approval of the Park Superintendent, the intention being to have the walls conform as much as possible to the cliffs immediately behind.

These buildings have all been designed by Messrs. Green and Wicks, architects, a modified style of classical architecture having been adopted.

In order to bring the heavy machinery to the Power House, a track was laid upon the Maid of the Mist Hill and along the roadway leading therefrom to the Power House site.

PIPE LINE. Between the Intake from the River and the Power House the supply of water to operate the works is to be conveyed in three mammoth steel tubes laid beneath the surface of the ground each of these to be eighteen feet in internal diameter and over six thousand feet in length. The construction of the first pipe proved to be a difficult and laborious work owing to the depth of the excavation necessary and the character of the material cut through varying from quick sand to solid rock. After the steel pipe was in place and partially covered it was decided to further insure its permanence and stability by enclosing it in concrete. This has been completed and the filling in about the pipe has only been hindered by the severe weather.

At the terminus of the Pipe north of Table Rock three large shafts were sunk down in the rock to below the level of the Power House floor and tunnels driven to these shafts from the face of the cliff. Each of these shafts and tunnels will contain two steel penstocks nine feet in diameter, being the supply for each unit of power in the Power House, and each penstock will have a valve set in an excavation in the rock immediately beneath the junction of the penstock with the eighteen feet diameter feeder pipe. These penstock tunnels and shafts will be protected by concrete about the pipes.

In addition to the extensive works needed for the penstocks, an inclined tunnel has been excavated for the conduit in which the electric cables will carry the current generated in the Power House to the Transformer House, which is constructed on the high bluff bordering the Park on the west, and just outside the Park limits. This Transformer House is a very imposing

building and being on an elevation of nearly one hundred and twenty feet above the surface of the Park roadways, it makes a very prominent feature of the landscape. Under an arrangement with the Commissioners the permanent setting out of the grounds about this building is to be made to conform to the general park design, an eminent Landscape Architect having been engaged for this purpose.

ELECTRICAL DEVELOPMENT COMPANY.

The building of the Coffier Dam around the area to be included in the Forebay of this company, which was well advanced at the beginning of the year, was completed early in the spring and the bed of the river was thereby unwatered sufficiently to allow of the permanent works being taken in hand. The outstanding features of these various permanent works as they have been designed by the Engineers of the Company are :—(a). A Water Wall to enclose the area required for the Forebay and maintain the water levels at the desired elevation. (b). A water tight land wall on the inner side of the Forebay. (c). The deepening of the enclosed area so as to impound a sufficient quantity of water to operate the works and provide for overflow requirements without unduly increasing the velocity. (d) Two lines of Masonry Sheer Ice Booms with submerged arched openings for the admission of water to the PowerHouse. (e). A Wheelpit for the hydraulic mechanism required to operate the electrical generators. (f). A Power House in which all the machinery for creating and controlling the electrical output of the works may be placed. (g). Means for carrying away the waste water from the water wheels to the lower river.

The first of these important works undertaken was the sinking of the *Wheelpit*. This is similar in its general features to the wheelpit of the Canadian Niagara Power Company, to which reference has been made in former reports, viz. :—A deep open excavation in the rock formation, which after being lined with massive brick walls and made water tight will contain the penstocks, water wheels, draft tubes and all machinery required to transmit the power created by the water wheels up to the electric generators on the floor of the Power House immediately above. The excavation of this Wheelpit was completed in record time, and by the end of the year considerable progress had also been made in driving the draft tube-tunnels and subsidiary discharge tunnels as well, and in preparing the bottom of the pit to receive the brick lining. The size of the wheelpit proper is 416 feet long, 27 feet wide, by 150 feet in depth.

The *Water Wall* or gathering overfall dam is of concrete with a coping of granite, in cross section the wall is verticle on the inside and S shaped on the river side, the thickness is abnormally heavy and the bottom is set in a check cut out of the rock bed of the stream. No portion of this wall will be visible when the works are in operation, as a heavy stream of water will constantly flow over the crest from the Forebay back into the river. The lower fifty feet of the length of the wall will act as a sluiceway to carry away ice and foreign matter. All this work has been completed.

The building of the Land Wall and the deepening of the Forebay to its finished level are well advanced towards completion, and a considerable part of the Outer Sheer Ice Boom is built.

THE MAIN DISCHARGE TUNNEL, which will carry the spent water from the water wheels to the lower river, extends from the upper works to the face of the Horse Shoe Falls seven hundred feet out from the shore, the whole of this work is under the bed of the river, but deep down in the rock formation, it is said

to be the largest tunnel in the world, being 26 feet high and 23 feet wide inside of the brick lining. The length of the Main Tunnel is 1,900 feet and the branch side tunnels, which run on either side of the Wheelpit and unite to form the Main Discharge, are together 1,260 feet long. Record time has been made upon this work also. The heading of the Main Tunnel having been driven throughout and timbered and about one-half of the benching out to the full height has been completed and made ready for the concrete and brick lining.

REFECTORY AND SHELTER BUILDING.

The unusually severe winter of 1903-4 delayed the construction of the new Refectory building very much and it was well on into June before any portion of the building was ready for occupation, and nearly the end of the season when the contractor was ready to hand over the premises in a completed condition. Part of the delay was occasioned by the difficulty in obtaining boulder stone, of which the walls and piers are built in sufficient quantity and of the assorted sizes desired by the Architects. All the appointments of the building have been very much admired by visitors. The spacious verandahs, the General and Ladies Waiting Rooms and the Lavatory conveniences being principally commended, while the shelter space available in case of storm and the Refectory facilities are greatly in advance of the conditions hitherto obtaining.

The exterior of the building has a broken and picturesque appearance and a perspective which harmonizes well with the setting when viewed from any direction, while the colors selected for the woodwork, and the artistic pointing of the masonry all combine to produce an effect at once dignified and harmonious. The chief characteristic of this Refectory and Shelter, however, must ever be the magnificent outlook which may be had from any part of the building, particularly from the broad verandahs which are such a feature of the structure, or from the prospect galleries in the tower, the views from which are at all times unique and charming, combining the wildest prospect of the river and Falls, the Park and the Reservation on the American side, the deep gorge and the wooded hillside. Many fine views may be had with more or less fullness from other vantage points within the Park, but from no other place can an equal combination of the beauties of Niagara Falls be enjoyed.

The permanent improvement of the grounds in front of and adjacent to the Refectory was early taken in hand, and under the skilful direction of Mr. Cameron, the Chief Gardener, speedily assumed a finished character, which ere the end of the season was generally commended by landscape Architects as being both artistic and in harmony with the best traditions of the profession. Broad approaches were made to the building from every direction, and all trees not actually required for shade or effect were removed.

The circular pond which was a marked feature of the Museum garden in the old days was cleaned out and made water tight and the chief parts of the famous fountain, erected in the lower end of the Park half a century ago by Mr. Zimmerman, but which with the lapse of years had fallen into disrepair, was put into shape and set up in the center.

GENERAL MAINTENANCE.

The work of maintaining the portion of the Park not disturbed by the works of the Power Companies was diligently attended to throughout the year, and where disturbance was made by the construction of the Canadian Niagara Power Company's conduit every effort was made to restore the defacement with the least possible delay.

Owing to the removal of the pavilion in which hot water for picnic parties was provided it became necessary to fit up temporary quarters pending the completion of the Refectory and the erection of permanent quarters nearer the center of the grounds. This was done and abundance of both hot and cold water was available for public use. It will be necessary to make provision before the coming season for a suitable and convenient building for the water heating apparatus, and as the dancing and shelter pavilion which has been in use for many years requires rebuilding, it is proposed to locate the hot water supply in the basement of that structure and extending the shelter accommodation so as to provide more space in case of a storm arising when a large picnic excursion is in the Park.

The erection of the Refectory building on its new site necessitated the rearranging of the drainage system to carry off the spring water in that locality; this was done, and some additional drains were put in at wet spots in the Park.

A new path was constructed leading from the main driveway near the Superintendent's Office to the north west angle of the Park in order to facilitate access to the grounds from the Ferry Hill.

Owing to the obstruction which the heavy cartage of materials caused to the carriage travel upon the park roadways it was found desirable to widen out the driveway so as to permit of three teams passing with ease at any point. This was effected by taking one of the side paths bordering the driveway, resurfacing the full width with macadam and making up the side slopes where necessary and resodding them.

OUTLYING TERRITORY.

The Park at Queenston Heights was maintained throughout the season in good order and condition, an additional area of the wooded spaces about the old earthworks was cleared up and made accessible, a new rustic arbor was erected overlooking the site of the Battery famous in the war of 1812, and the picnic grounds were levelled up and enlarged. This interesting spot proved to be very attractive to many excursionists, and a constant stream of passing visitors was attracted from the Electric Railway.

At Fort Erie, a Caretaker was appointed and the grounds were cleaned up and cared for throughout the season.

The erection of a Monument on the grounds to commemorate the gallant siege of the Fort in the War of 1812-14, and which was referred to in last years report, was undertaken. The Commisisoners having decided that a granite shaft with full inscription in bronze would be more lasting and better worthy of the historic character of the place, estimates were called for, and the approval of the Government having been obtained to the increased expenditure the contract was let and the work carried out, with the exception of the two bronze Tablets, which have not yet been supplied. The Monument is of Canadian Grey Granite, circular in outline, about thirty feet in height. It is eight feet in diameter at the surface of the ground and tapers up to four feet at the bottom of the shaft. The base is in three courses, rock faced with a chiseled draft at the joints, and a bevelled plinth also chiseled. Above the base the courses are of single stones, rock faced, and without marginal drafts, the lower three courses having recesses on two sides for the bronze Tablets, the one in front towards the river, bearing the inscription:—

"In memory of the Officers and Seamen of the Royal Navy and the Officers, non-commissioned Officers and privates of the Royal Artillery, Royal Engineers, Royal Marines, 19th Light Dragoons, 1st Royal Scots, 6th, 8th (Kings), 41st, 82nd, 89th, 104th and De Watteville's Regiments, the Glen-

“garry Light Infantry and the Incorporated Militia, who fell during the “seige of Fort Erie in August and September 1814.” and the one in rear the list of Officers who fell, as follows:—

“Officers killed during seige of Fort Erie.”

“Colonel Hercules Scott, 103rd Regt., Lieut.-Col. William Drummond, “104th Regt., Lieut.-Col. John Gordon, Royal Scots, Captain R. D. Patteson, “6th Regt., Capt. Torrens, 8th Regt., Capt. J. M. Wright, 82nd Regt., Capt. “Edward Walker, Incorporated Militia, Lieut. Coples Radcliffe, R.N., Lieut. “Noel, Royal Scots, Lieut. J. Rutledge, Royal Scots, Lieut. Barstow, 8th. “Regt., Lieut. Pellichody, De Watteville’s Regt., Ensign C. Langford, 82nd “Regt.”

Immediately above the Tablets there is a dressed Label Course on which is inscribed in raised letters five inches deep, cut in the granite:—“*DULCE ET DECORUM EST PRO PATRIA MORI.*” The upper portion of the Shaft is rock faced without marginal drafts, the whole being surmounted with a massive dressed and carved capital and finished with a granite ball having the Greek cross in relief on two sides.

This Monument forms a striking feature of the landscape, and although the design is simple and lacking in sculptured ornament, yet the material is lasting and the work will ever remain a memorial to future generations of the heroic deeds performed by the brave men who defended our country against invasion in 1812-14.

The planting of the grounds with suitable trees and shrubs will be undertaken in the spring.

NIAGARA RIVER BOULEVARD.

The very severe winter of 1903-4 caused great quantities of ice to be formed in Lake Erie and along the shore of the river, and on the opening up of spring this was brought down the river in large floes which coupled with high water and prevailing easterly winds scored deeply into the clay banks forming the western shore at all points where the course of the current permitted. The erosion thus caused was so great that the roadway along the shore was in places in danger of being entirely cut away and its continuity destroyed, the protection of the bank therefore became an urgent matter and steps had perforce to be taken to secure a form of protection which would be effective and of moderate cost. Contracts were therefore entered into for the supply of a quantity of stone riprap sufficient to form a barrier to the wave action or floating ice, to be placed at the points where erosion was found to be greatest, and by the end of the season nearly one-half of the worst spots had been secured. This work will have to be continued until all danger from this source is overcome.

As this wasting of the shore has been going on for many years, the roadway requires widening for the greater part of its length, and as a boulevard is proposed to be formed along the whole distance from the Park to Fort Erie, the width to be acquired must be ample not only for the driveway and paths, but for the finishing of the slope of the bank as well—and in addition space for an Electric Railway should be allowed for. As it was necessary in order to make the existing travelled way along the shore safe at the dangerously eroded points above referred to, strips of land have been purchased from the adjoining proprietors where absolutely required, and the pieces acquired this past year have been of a width sufficient for all the purposes mentioned. At the present time over one-fifth of the total length required to be widened has been obtained and the fences put back to the new line.

MISCELLANEOUS WORKS.

Owing to the space which had been cultivated as a Park Nursery having been occupied by the works of one of the Power Companies, it was necessary to secure lands for this purpose elsewhere, and a few acres were leased in Stamford Township where the Nursery Stock which was procured in anticipation of the restoration of the Park surface, was set out and kept cultivated, ready for planting in the spring should the grounds be ready. It is much more economical and in every way better to purchase only young stock of trees and shrubs and keep in nursery rows where the necessary transplanting and care may be given before the plants are ready to set out; a comparatively large order was therefore given in the early spring, and a very choice collection of plants which could not be obtained in Ontario was secured. These with what trees and shrubs required which are indigenous to the country, and which can be obtained readily from the local Nurseries, will enable us to make a good showing in 1905, should the grounds be ready in time for spring planting. Otherwise the stock will all be in better shape for the following year.

All of which is respectfully submitted.

JAMES WILSON.
Superintendent.

APPENDIX "B".

THIS AGREEMENT made the Ninth day of January A. D., 1905, between THE COMMISSIONERS OF THE QUEEN VICTORIA NIAGARA FALLS PARK, acting herein on their own behalf and with the approval of the Government of the Province of Ontario hereinafter called the "Commissioners" Of the First Part, AND THE ELECTRICAL DEVELOPMENT COMPANY OF ONTARIO, LIMITED, hereinafter called the "Company", of the Second Part.

WHEREAS, for convenience and to prevent ambiguity it is agreed and understood by and between the said parties hereto and is hereby declared as follows, that is to say:

(a). The expression the "The Park" wherever it occurs herein shall be understood to mean the Park proper, namely the Queen Victoria Niagara Falls Park, south of its original boundary in front of the property formerly known as the Clifton House and running easterly to the Niagara River.

(b). The expression "The Commissioners" wherever it occurs herein, shall be understood to mean not only the Commissioners of the Queen Victoria Niagara Falls Park—as representing the Government of the Province of Ontario in the premises—named as parties hereto of the First Part, but also their successors and assigns and those who for the time being may be Commissioners of the Queen Victoria Niagara Falls Park or other representatives of the Government in Ontario.

(c). The expression the "Company" wherever it occurs herein shall be understood to mean The Electrical Development Company of Ontario, Limited, its successors and assigns, duly incorporated by letters patent dated 18th February, 1903, issued under the Great Seal of the Province of Ontario in accordance with the Ontario Companies Act.

(d). The expression "The First Agreement" wherever it occurs herein shall be understood to mean the agreement bearing date the 29th day of January A. D. 1903 and made between the said Commissioners of the First Part

and William Mackenzie of the City of Toronto, Capitalist, Henry Mill Pellatt of the same place, Capitalist, and Frederick Nicholls of the same place, Capitalist therein called "The Syndicate" of the Second Part, whereby the said Commisisoners did grant unto "The Syndicate" a license irrevocable to take from the waters of the Niagara River within the Park a sufficient quantity of water to develop 125,000 electrical or pneumatic or other horse power for commercial use and did also grant to The Syndicate the right to construct, build and do and perform and operate the specific works therein designated and located in pink lines upon the map or plan marked "N" annexed to the said Agreement upon the terms and subject to the conditions in the said agreement specified.

AND WHEREAS the First Agreement was duly approved by the Lieutenant-Governor-in-Council by Order-in-Council dated the 30th day of January A.D., 1903;

AND WHEREAS it was expressly provided in and by the First Agreement that the Syndicate should within two years from the date thereof sell, assign, convey and transfer to a Company or Corporation formed under proper authority having power to construct and operate the said works all the rights and franchises by the First Agreement given and conferred to and upon the Syndicate and in accordance with such provision and pursuant thereto the said Syndicate by an Indenture of Assignment bearing date the 21st day of March, 1903, did sell, assign, convey and transfer to the Electrical Development Company of Ontario, Limited, being the Company hereto of the Second Part, its successors and assigns, the said agreement of 29th January, 1903, meaning the First Agreement together with all the rights and franchises given and conferred thereby and all benefits and advantages to be derived therefrom.

AND WHEREAS the locations of the several works authorized under the First Agreement which have been constructed or which are in process of construction are shewn in black lines upon the accompanying map marked "O".

AND WHEREAS, the Company represent that the quantity of water intercepted by the works authorized by their first Agreement is sufficient to enable power to be developed in excess of the amount already authorized by such first agreement, which if not secured and made sure of while construction of works under First Agreement is proceeding, would be to lose the utilization of such excess of water forever.

AND WHEREAS, the location of the new works which the Company now desire to construct are shewn in red lines and figures upon the accompanying map or plan marked "O" and which may be described as follows:—

(a) To remove the Masonry Revetment Wall 1, 5, 6, constructed by the Company.

(b). To build an outer line of Arched Masonry Sheer Ice Booms from or near the point 1, to or near the point 2, and an inner line from or near the point 3 to or near the point 4.

(c). To construct a second Power House with Rack, Screen, Gate House Wheelpit, Penstocks and machinery within the area marked 3, 4, 7, 8, the design and construction of which shall be of the same general character as has been authorized and approved of by the Commissioners for the Power House provided for under the terms of the First Agreement.

(d). To terrace the front of the building in a manner to be approved of by the Commissioners.

(e). To carry the electricity generated in the second Power House to points beyond the Park by means of underground conduits, carried under the surface of the Park and under the Pipe Lines of the Ontario Power Company in a manner to be approved of by the Commisisoners.

(f). To construct a Masonry lined tail race tunnel with branch tunnels on either side of the wheelpit to carry the discharge water from the wheels of the second Power House to the River below the Falls.

NOW THEREFORE THIS AGREEMENT WITNESSETH as follows, that is to say :

1. For the purpose of generating electricity and pneumatic power or other power for commercial use to be transmitted and capable of being transmitted to places beyond the Park, The Commissioners hereby grant to the Company subject to the consent and approval of the proper authority and save as hereafter limited, a license irrevocable to take and use any excess of water which may be found within the Forebay and works of the Company constructed in accordance with the terms of the First Agreement over and above the amount required to generate the 125, 000 electrical horse power heretofore granted for the purpose of developing such additional electrical pneumatic or other power as the capacity of the Forebay and works may or can supply. Provided, however, that the Company shall not develop more than 125,000 electrical horse power under this Agreement. Provided also that these presents are not construed as expressing or implying any covenants by the Commissioners in respect of the rights hereby created or for title or quiet possession.

2. For the purposes aforesaid the Commissioners further grant to the Company the right to construct and build and do and perform and operate the works as hereinbefore and again hereinafter described and located in Red lines and figures upon the map or plan marked "O" hereto annexed and entitled "Plan attached to agreement dated Ninth of January 1905, made by the Commissioners of the Queen Victoria Niagara Falls Park with the Electrical Development Company of Ontario, Limited, for power privileges within the Park", and which map or plan is identified by the seals and signatures of the parties hereto.

3. The several works which the Company are by these presents granted the right and authorized to perform, execute and construct are such as are laid down and described on the said Map or Plan in red lines; and more particularly specified as hereinbefore recited in sections A. B. C. D. E. and F. of this agreement.

Such grant by this and the two preceding paragraphs for the purpose of such additional output or for any purpose in this agreement contained, shall not be used or be capable of being used in derogation or diminution of right of use of the waters of the Niagara River already granted by the Commissioners to other grantees so that such grantees cannot obtain the necessary supply of water as in their respective agreements provided.

4. The license by these presents granted and more particularly defined and specified in paragraphs numbered one and two hereof, shall commence on the date of these presents and shall extend subject to the fulfilment by the Company of all conditions, provisions and stipulations herein contained to and until the first day of February, 1953, nevertheless it is expressly understood and agreed that the Company shall not be bound to forthwith exercise its rights hereunder but may do so at its option at any time within ten years from the date of the first output of power under the First Agreement, and the Company shall give to the Commissioners six months notice in writing of the time when it will commence operations hereunder and from and after the time mentioned in the said notice all the provisions of this agreement shall immediately come into full force and operation, and it is further agreed that in the meantime and until the time fixed in the said notice the Company shall pay to the Commissioners for such rights of option the sum of \$5,000 per annum payable half-

yearly in advance on the first days of April, and October in each year (and proportionate payment on the first day of April, 1905, commencing from the execution of this agreement until such time as the Company shall have developed and sold for commercial use one-half of the 125,000 horse power authorized to be developed by the Company under the First Agreement then from and after such time the Company will pay to the Commissioners the sum of \$10,000 per annum payable half-yearly on the first days of April and October in each year until the time when the Company shall develop for sale power under the terms of this agreement; whereupon the Company in addition to the sums payable to the Commissioners under paragraph 14 of the First Agreement will pay to the Commissioners the sum of \$15,000 per annum in half-yearly payments in advance on the first days of April and October in each year, and also such sums for each horse power developed hereunder and sold as provided by paragraph 14 of the First Agreement in respect of the rentals for such sales of the electrical or other horse power, payable by the Company to the Commissioners under the First Agreement.

Provided that in case of the failure by the Company to give the said notice within the said period of ten years, from the date of the first output of power under their First Agreements, or in case of default in the payment of any of the said half yearly payments of Two thousand five hundred dollars or Five thousand dollars, or as the rentals may be increased by the generation of additional power, as the case may be, the Lieutenant-Governor-in-Council may declare this agreement, the liberties, licenses, powers and authorities so granted and of every of them to be forfeited and void and thenceforth after such declaration the same shall cease and determine and be utterly void and of no effect whatever.

It is further provided that if the Company determine not to exercise its rights hereunder it shall be entitled to give notice in writing to that effect to the Commissioners at any time within three months before the expiration of the period of ten years from the date of the first output of power under the said First Agreement and in such case all further payments by the Company to the Commissioners hereunder shall cease.

5. It is hereby expressly provided that one-half of the power to be generated hereunder shall from time to time be available for the use of any Municipality or Municipalities within the Province of Ontario for the purpose of operating a municipal system of lighting, heating or other public utilities, then owned or which may hereafter be owned by such municipality or municipalities to be delivered at and taken from any of the Company's Transformer Houses at the works of the Company at Niagara Falls and whenever the additional electrical, pneumatic or other horse power or any part thereof to be generated under this agreement shall be available for use, then the Company shall supply to such municipalities as shall make application therefor one-half of the said power. The price to be paid by such municipalities for the said power may be fixed by the Lieutenant-Governor-in-Council who may also fix the price every fifteen years thereafter during the continuance of this agreement or any renewal thereof; and in determining the said price the Lieutenant-Governor-in-Council may inquire as to the price paid for power by other consumers receiving electrical energy from the said Company in Ontario, the price paid by private consumers in the case of electrical energy produced by steam power or water power in Ontario and the various conditions which in the opinion of the said Lieutenant-Governor-in-Council might be necessary to determine the matter in issue.

AND IT IS FURTHER PROVIDED that the quantities to be supplied to each applicant municipality, the priority of use to be enjoyed by such municipal-

ity, the periods of using the same, and the fixing of a reasonable period where such municipality having temporarily waived or declined to use power its rights may be revived to be in accordance with any general legislation by the Legislature of Ontario, or if no such general legislation then as the Lieutenant-Governor-in-Council may determine.

6. This agreement shall be taken to supplement the First Agreement and all the terms conditions and provisions of the First agreement shall, so far as applicable, apply to the works authorized by these presents and the execution and carrying out thereof.

7. And for greater certainty, but not so as to restrict the generality of the foregoing, it is hereby further declared and agreed that if on the first day of February 1953 the terms of the said license as limited by paragraph 14 of the First agreement shall have terminated (and not otherwise terminated by the terms and conditions or provisions of the said First agreement or of this agreement or of either of them) renewal of the terms or re-adjustment of the rentals or both, as provided by the First Agreement and this agreement, shall be made in accordance with the provisions of paragraph 15 of the said First agreement.

8. AND FURTHER, for greater certainty but not so as to restrict the generality of paragraph six of this agreement it is hereby declared and agreed that the following paragraphs of the first agreement where applicable shall apply and be taken to be inserted herein and thereby to form part of this agreement namely, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 20, 21, 22, 24, 25, 26, 28.

9. This agreement shall have no force or effect until approved by the Lieutenant-Governor-in-Council nor operative unless and until ratified and confirmed by the Legislative Assembly of Ontario; but the rights and privileges hereby granted shall, after the ratification and confirmation of the Legislative Assembly, have force and effect from the date of this agreement; provided that this agreement shall not restrain or affect the power of the Commissioners to control the construction of works or direct the manner in which works may be done and performed, within or over the area authorized by the First agreement, although the area and location thereof may also be within the area and limits the subject of the License described in this agreement.

IN WITNESS WHEREOF the Corporate Seal of the Commisisoners hath been hereunto affixed by their Chairman who has also signed these presents in certification of due execution hereof by the Commissioners and the corporate seal of the Company has been hereunto affixed by the President who has also signed these presents in certification of the due execution hereof by the Company on the day and year first aforesaid.

THE COMMISSIONERS OF THE QUEEN VICTORIA NIAGARA FALLS PARK.
(SEAL).

Witness.—

(SGD.), JAMES WILSON.

(Sgd.) J. W. LANGMUIR,
Chairman.

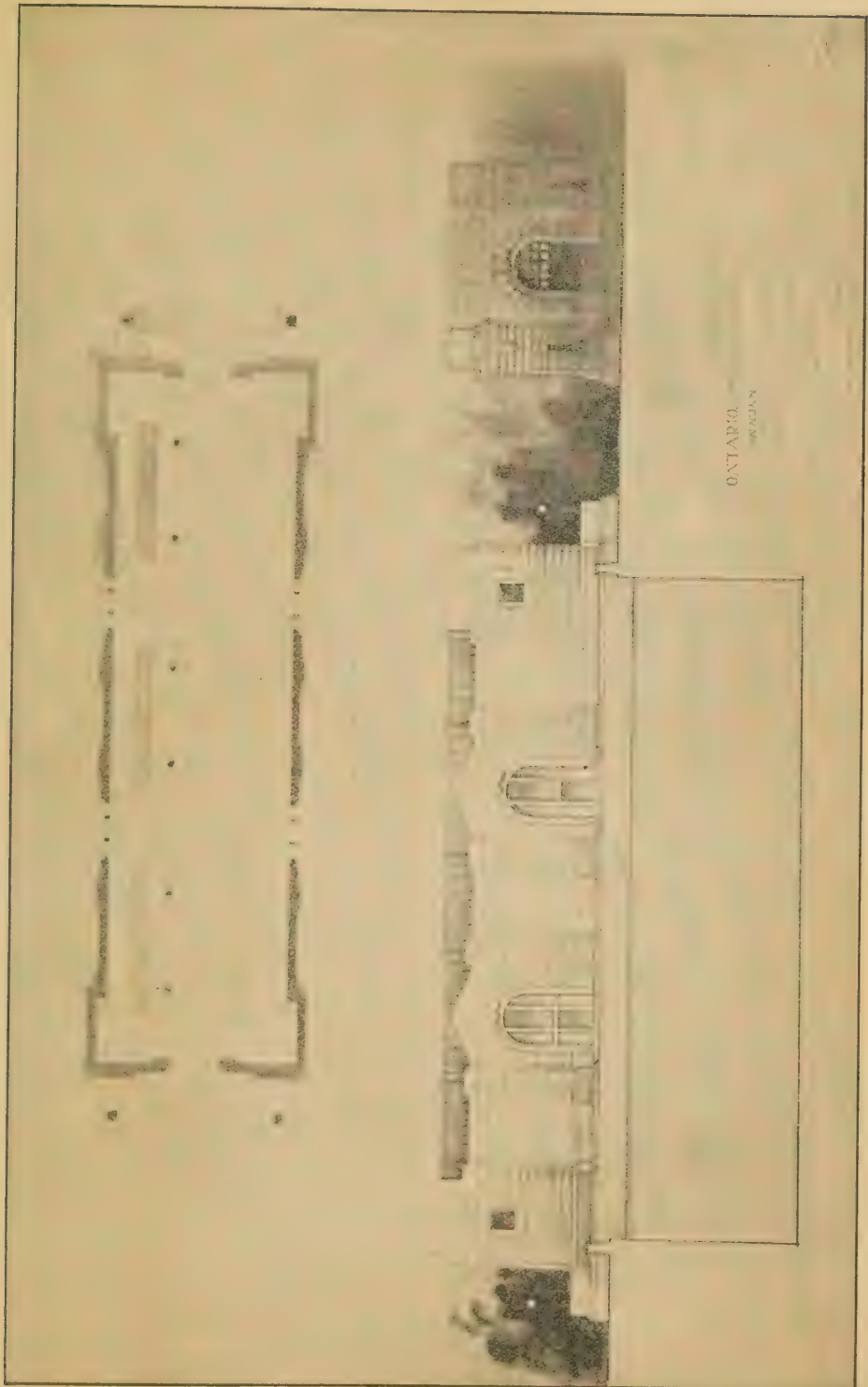
THE ELECTRICAL DEVELOPMENT COMPANY OF ONTARIO, LIMITED.
(SEAL).

(Sgd.) HENRY M. PELLATT,
President.

(Sgd). H. G. NICHOLLS.
Secretary.

Witness.—

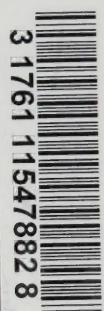
(Sgd). H. H. MACRAE.



The Gate House of the Ontario Power Company.



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